SONY

3-862-493-**11**(1)

Mini Hi-Fi Component System

Operating Instructions

Owner's Record

The model and serial numbers are located on the rear panel. Record the serial number in the space provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. _____ Serial No. _____

COMPACT disc DIGITAL AUDIO

MHC-FR10 / F150 / F250AV

©1998 by Sony Corporation

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

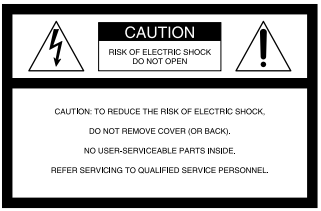
Do not install the appliance in a confined space, such as a bookcase or built-in cabinet.

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

The following caution label is located inside the unit.

CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.
ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLING.
VORSICHT : UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET UND SICHEREITSVERRIEGELUNG ÜBERBRÜCKT. NICHT DEM STRAHL AUSSETZEN.
VARO! : AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING : OSYNLIG LASERSTRÅLING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.
ADVERSEL : USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.
VIGYAZAT! : A BURKOLAT NYITÁSAKOR LÁTHATATLAN LÉZERSUGÁRVESZÉLY! KERÜLJE A BESUGÁRZÁST!

NOTICE FOR THE CUSTOMERS IN THE U.S.A.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CAUTION

The use of optical instruments with this product will increase eye hazard.

Note to CATV system installer

This reminder is provided to call CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

INFORMATION

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

– Reorient or relocate the receiving antenna.
– Increase the separation between the equipment and receiver.
– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
– Consult the dealer or an experienced radio/TV technician for help.

CAUTION

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

NOTICE FOR THE CUSTOMERS IN CANADA

CAUTION:

TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS POLARIZED AC PLUG WITH AN EXTENSION CORD,
RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

MHC-FR10/F150

This stereo system is equipped with the Dolby B-type noise reduction system*.

MHC-F250AV

This stereo system is equipped with the Dolby B-type noise reduction system and Dolby Pro Logic Surround decoder*.

* Manufactured under license from Dolby Laboratories Licensing Corporation.

DOLBY, the double-D symbol ⧈ and "PRO LOGIC" are trademarks of Dolby Laboratories Licensing Corporation.

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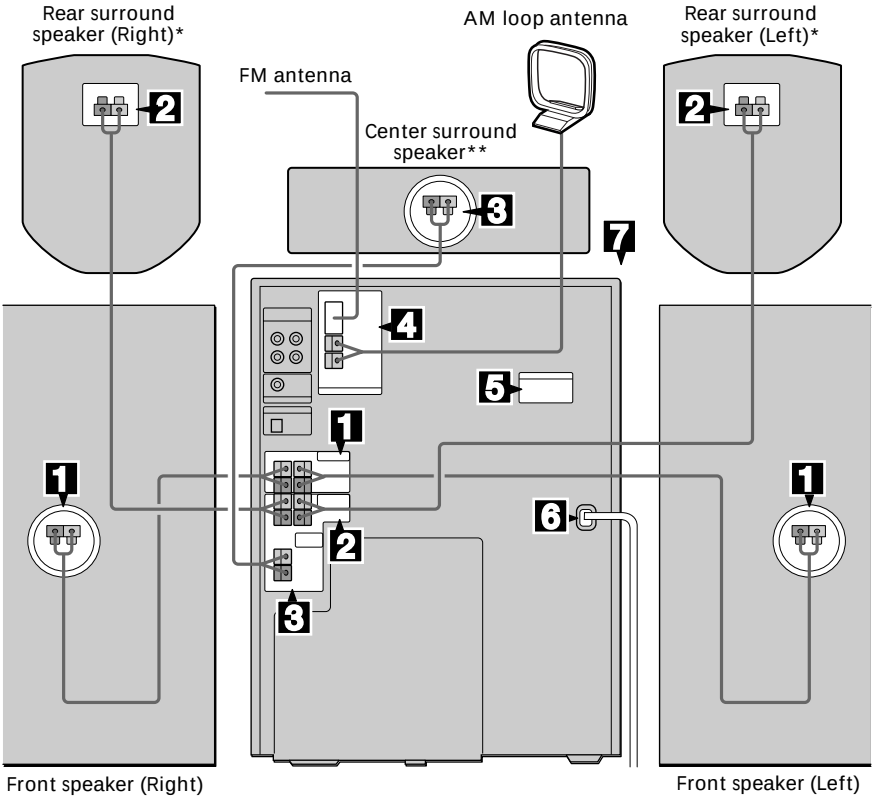
*1 MHC-F250AV only
*2 European model only
*3 Except for Australian and European models

Step 1: Hooking up the main unit



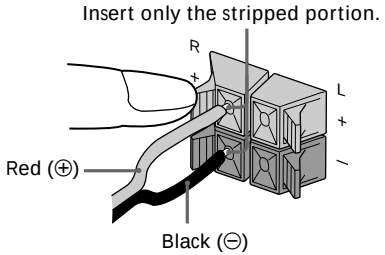
* MHC-F150/F250AV only

** MHC-F250AV only

1 Connect the front speakers.

Connect the speaker cords to the SPEAKER jacks of the same color.

Keep the speaker cords away from the antennas to prevent noise.



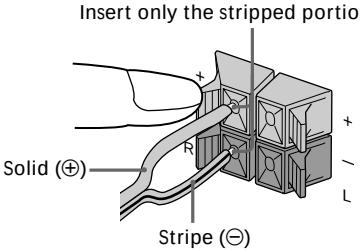
Note

The type of speakers supplied vary according to the model you purchased (see “Specifications” on page 56).

2 Connect the rear surround speakers.

Connect the speaker cords from the rear surround speakers to the appropriate REAR SPEAKER jacks. Connect the solid cords to the red jacks and connect the striped cords to the black jacks.

Keep the speaker cords away from the antennas to prevent noise.



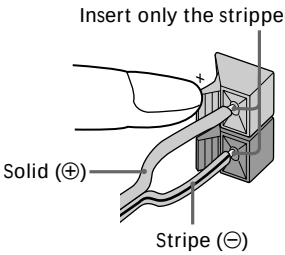
Notes

- Do not place the rear surround speakers on top of a TV. This may cause distortion of the colors in the TV screen.
- Be sure to connect both left and right rear surround speakers. Otherwise, the sound will not be heard.

3 (MHC-F250AV only) Connect the center surround speaker.

Connect the speaker cords from the center surround speaker to the appropriate CENTER SPEAKER jacks. Connect the solid cord to the red jacks and connect the striped cord to the black jacks.

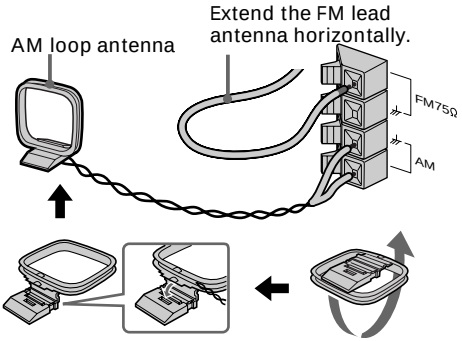
Keep the speaker cords away from the antennas to prevent noise.



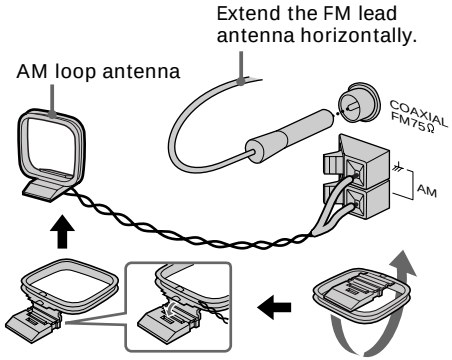
4 Connect the FM / AM antennas.

Set up the AM loop antenna, then connect it.

Jack type Ⓐ



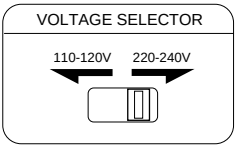
Jack type Ⓑ



continued

Step 1: Hooking up the main unit (continued)

5 Set VOLTAGE SELECTOR to position of your local power line voltage (for models with a voltage selector).



6 Connect the power cord to a wall outlet.

Demo mode appears in the display.

7 Deactivate the demo mode by pressing DISPLAY / DEMO when the system power is turned off.

The demo mode is also deactivated when you set the time.

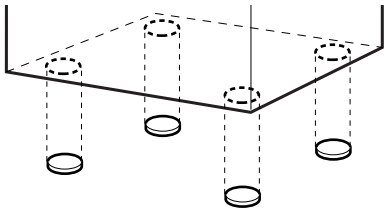
Tip

You can reinforce the bass sound by connecting an optional super woofer to the super woofer connector.

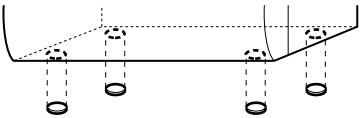
To attach the speaker pads

Attach the supplied speaker pads to the bottom of the speakers to stabilize the speakers and prevent them from slipping.

Front speaker

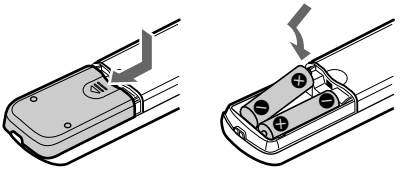


Center surround speaker (MHC-F250AV only)

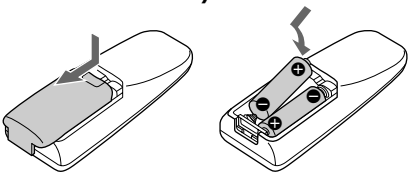


Inserting two size AA (R6) batteries into the remote

(for MHC-F250AV)



(for MHC-FR10 / F150)



Tip

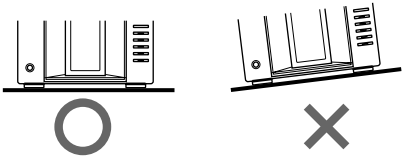
With normal use, the batteries should last for about six months. When the remote no longer operates the system, replace both batteries with new ones.

Note

If you do not use the remote for a long period of time, remove the batteries to avoid possible damage from battery leakage.

Note on placement

Be sure to place this system on a horizontal place. If the system is slanted, it may cause malfunction or damage to the system.



Step 2: Setting up the surround speakers

For MHC-F250AV

Connecting the supplied rear and center surround speakers enables you to fully enjoy Dolby Pro Logic Surround sound. Dolby Pro Logic Surround is a decoding system standardized in TV programs and movies. Dolby Pro Logic Surround improves the sound image by using four separate channels. These channels manipulate the sound to be heard and enhance the action as it happens on the screen.

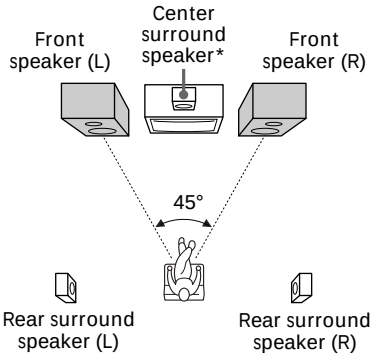
For MHC-FR10 / MHC-F150

In addition to the front speakers, connecting the supplied rear speakers provides reverberation and reflective sound that emphasize the sound from the front speakers.

Positioning the speakers

Before you connect them, determine the best location for your speakers.

1 Place the front speakers at an angle of 45 degrees from your listening position.

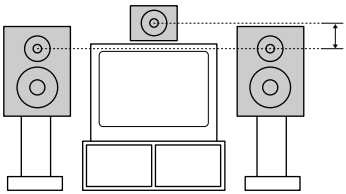


* For MHC-F250AV only

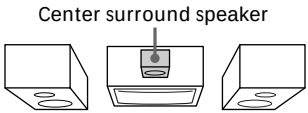
continued

2 (For MHC-F250AV only)
Place the center surround speaker so it is placed about the same height as the front speakers (**A**). Align the center surround speaker with the front speakers or place it slightly back from the position of the front speakers (**B**).

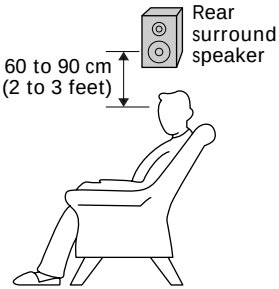
A



B



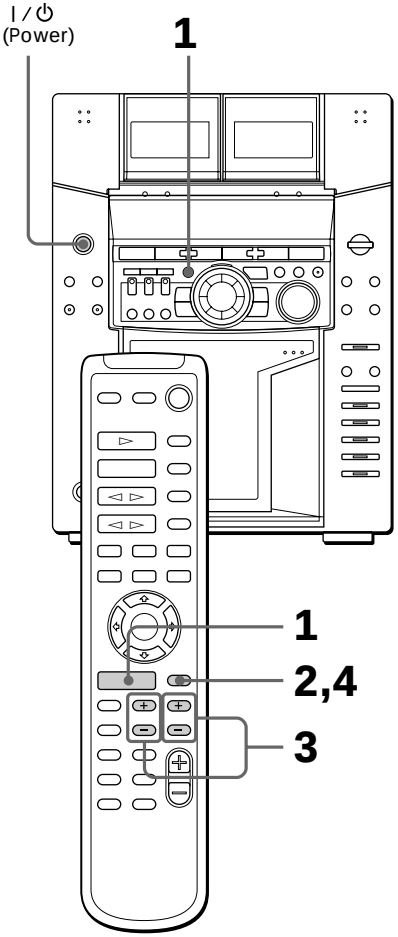
3 Place the rear surround speakers facing each other at about 60 to 90 cm (2 to 3 feet) above your listening position.



Adjusting the speaker volume

(For MHC-F250AV only)

To enjoy Dolby Pro Logic Surround sound, turn the Dolby Pro Logic mode on, then adjust the volume of each speaker using the test tone that the system provides.



1 Press PRO LOGIC (or PRO LOGIC ON / OFF on the remote).

"PRO LOGIC ON" appears.

2 Press T.TONE ON / OFF on the remote.

The test tone is heard from the speakers in the following order. Adjust the volume of the test tone.

Front (left) ➡ Center ➡ Front (right)

Rear

3 From your listening position, press CENTER LEVEL (+/–) and REAR LEVEL (+/–) on the remote to adjust the volume.

The volume levels from each speaker must become the same.

4 Press T.TONE ON / OFF when you are done adjusting.

The test tone turns off.

Tip

If you turn VOLUME (or press VOLUME +/– on the remote) all the speaker volumes change.

Note

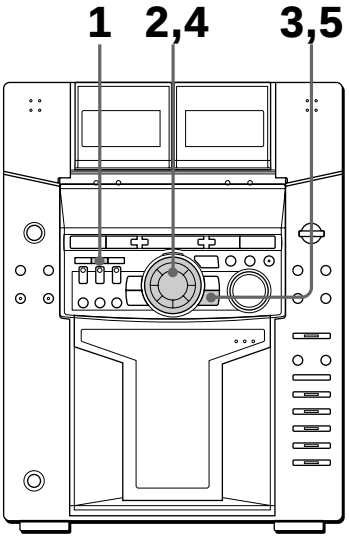
The test tone feature works only for Dolby Pro Logic Surround sound.

Step 3: Setting the time

You must set the time before using the timer functions.

The clock is on a 24-hour system for the European model, and a 12-hour system for other models.

The 12-hour system model is used for illustration purposes.



1 Press CLOCK / TIMER SET.

The hour indication flashes.

2 Turn the jog dial to set the hour.

continued

Step 3: Setting the time (continued)

3 Press ENTER

The minute indication flashes.

4 Turn the jog dial to set the minute.

5 Press ENTER.

The clock starts working.

Tips

- If you've made a mistake, start over from step 1.
- Setting the time deactivates the demo mode. If you want to display the demo mode, press DISPLAY / DEMO when the power is off.

Note

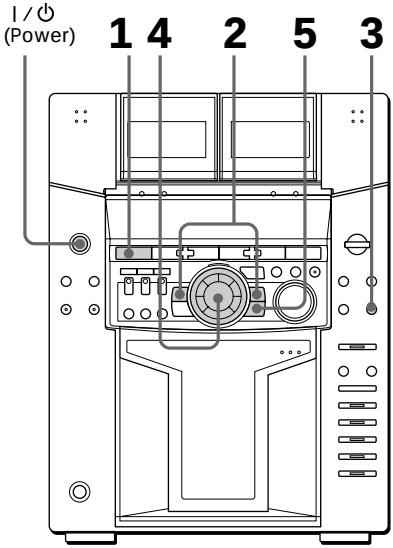
The previous explanation shows you how to set the time while the power is off. To change the time while the power is on, do the following:

1 Press CLOCK / TIMER SET.
2 Turn the jog dial to select SET CLOCK.
3 Press ENTER.
4 Perform steps 2 through 5 above.

Step 4: Presetting radio stations

You can preset the following number of stations:

– 2 band model: 20 for FM, 10 for AM.
– 3 band model: 20 for FM, 10 for MW, and 10 for SW (or LW, depending on the model you purchased).



1 Press TUNER/BAND repeatedly until the band you want appears in the display.

The bands you can receive vary depending on the model you purchased. Be sure to check which bands you can receive.

Every time you press this button, the band changes as follows:

2 band model:

FM ⟷ AM

3 band model:

FM → MW → SW

or

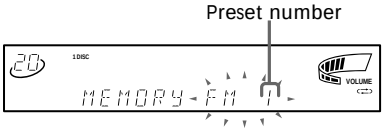
FM → MW → LW

2 Press and hold + or – until the frequency indication starts to change, then release.

Scanning stops when the system tunes in a station. "TUNED" and "STEREO" (for a stereo program) appear.

3 Press TUNER MEMORY.

A preset number appears in the display.



4 Turn the jog dial to select the preset number you want.

5 Press ENTER.

The station is stored.

6 Repeat steps 1 to 5 to store other stations.

To tune in a station with a weak signal

Press + or – repeatedly in step 2 to tune in the station manually.

To change the preset number

Start over from step 1.

To change the AM tuning interval (Except for the European model)

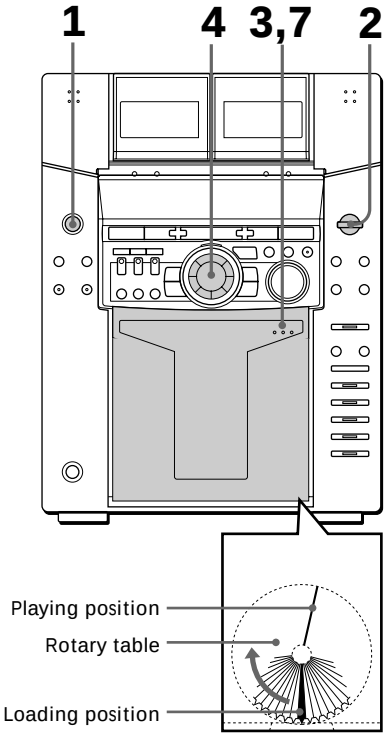
The AM tuning interval is factory set to 9 kHz (10 kHz in some areas). To change the AM tuning interval, tune in any AM station first, then turn off the power. While holding down the ENTER button, turn the power back on. When you change the interval, AM preset stations will be erased. To reset the interval, repeat the same procedure.

Tip

The preset stations are retained for half a day even if you unplug the power cord or if a power failure occurs.

Inserting CDs

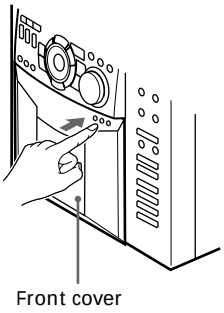
You can insert up to 51 discs into this player. We recommend you use the PLUS ONE slot for CDs you will be inserting and removing frequently (see page 29).



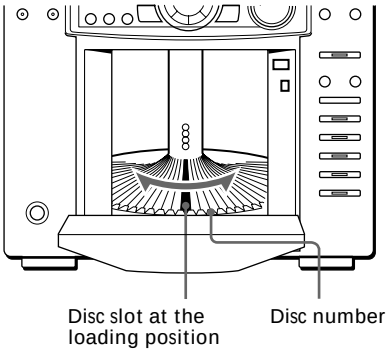
1 Press I / ⏻ (power) to turn on the player.

2 Press FUNCTION repeatedly until "CD" appears.

3 Open the front cover by pushing the right edge of the cover.

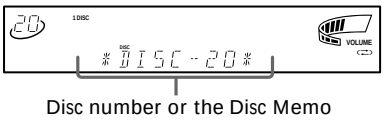


4 Turn the jog dial until you find the disc slot where you want to insert a disc, while checking the disc number (written beside every slot and also indicated in the display).



The disc number* or Disc Memo (see page 33 for details) at the loading position appears in the display. As you turn the jog dial, the disc number or Disc Memo changes.

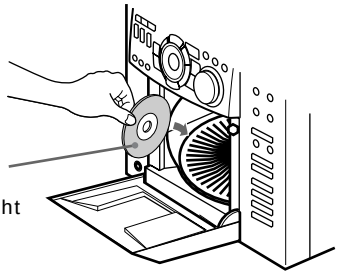
* If you have already inserted discs, the disc number at the playing position appears. When you turn the jog dial, the displayed disc number changes to the one at the loading position.



5 Insert a disc with the label side facing right.

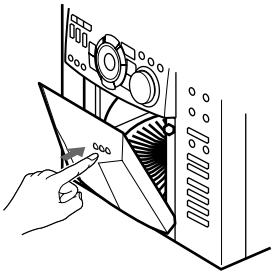
Notes

- Make sure you have inserted the disc into each slot at a right angle to the rotary table. If the disc is not put in straight, it may damage the player or the disc.
- Make sure the rotary table comes to a complete stop before inserting or removing discs.



6 Repeat steps 4 and 5 to insert more discs.

7 Close the front cover by pushing the right edge of the cover until it clicks.



The rotary table turns and the disc slot at the loading position is set to the playing position.

Always close the front cover except when you insert or remove discs.

Removing CDs

After following Steps 1 to 3 of “Inserting CDs” on page 12, remove the discs. Then close the front cover.

Notes

- Do not insert an empty 8 cm (3-inch) CD adaptor. It may damage the player.
- Do not attach anything such as seals or sleeves to CDs. It may damage the player or the disc.
- If you drop a disc into the player and the CD won‘t go into the slot correctly, consult your nearest Sony dealer.
- When transporting the player, remove all discs from the player.
- If you want to remove the disc played, press ENTER after opening the front cover. The disc comes to the loading position. Remove the disc after the rotary table comes to a complete stop.

Tips

- To play the disc you want independently, see “Playing your favorite CD independently”.
- You can display the original Disc Memos instead of the disc numbers (see “Labeling a CD”) to locate it easily when you start playing.
  When you select a CD-TEXT disc, the disc title is displayed instead of the disc number.

Connecting optional AV components

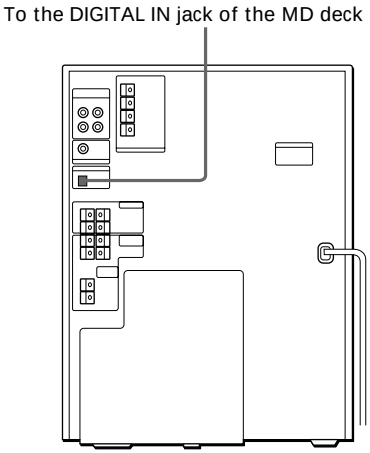
To enhance your system, you can connect optional components. Refer to the instructions of each component.

Connecting audio components

Select one of the following two connections, depending on the equipment to be connected and method of connecting.

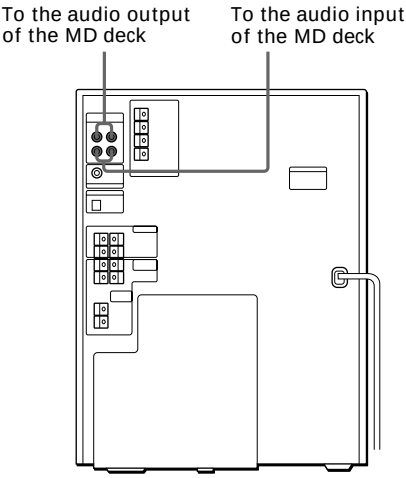
Connecting an MD deck for digital recording

You can record from CD into the MD deck digitally by connecting an optical cable.



Connecting an MD deck for analog recording

Make sure to match the color of the plugs and the connectors. To listen to the sound of the connected MD deck, press FUNCTION repeatedly until “MD” appears.



Note

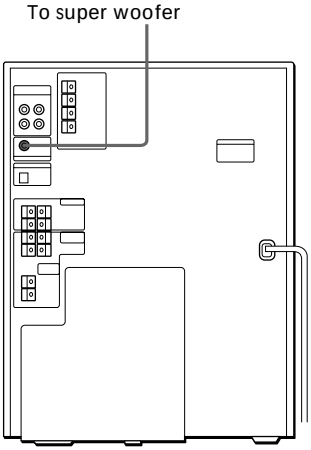
If you cannot select “MD” even when you have pressed FUNCTION, press I / ⏻ while holding down FUNCTION when the power is turned off. “VIDEO” will be switched to “MD”. To return to “VIDEO” do the same procedure.

Tip (MHC-F250AV only)

When you connect a Sony MD deck, you can use the MD ▷, ❚❚, and ■ buttons on this unit’s remote to perform play, pause, and stop operations.

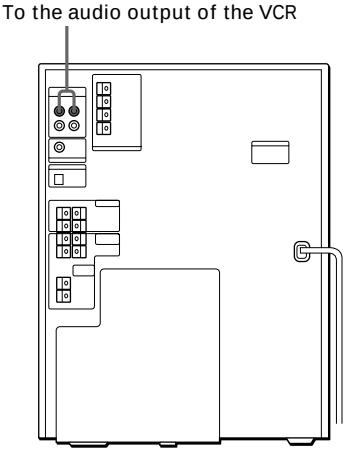
Connecting a super woofer speaker

You can connect an optional super woofer speaker.



Connecting a VCR

Make sure to match the color of the plugs and the connectors. To listen to the sound of the connected VCR, press I / ⏻ while holding down FUNCTION when the power is turned off. This switches the “MD” function to “VIDEO”. Once you enable the “VIDEO” function, just press FUNCTION repeatedly until “VIDEO” appears.



Note

If the sound is distorted when selecting “VIDEO”, or you want to switch back to “MD”, repeat the operation described above for switching to “VIDEO”.

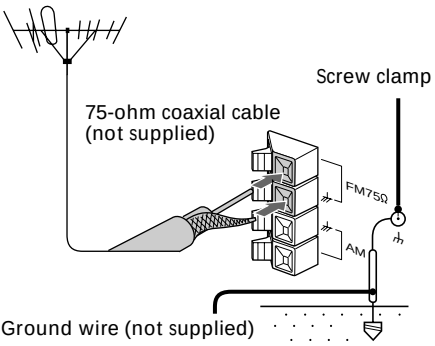
Connecting outdoor antennas

Connect the outdoor antenna to improve the reception.

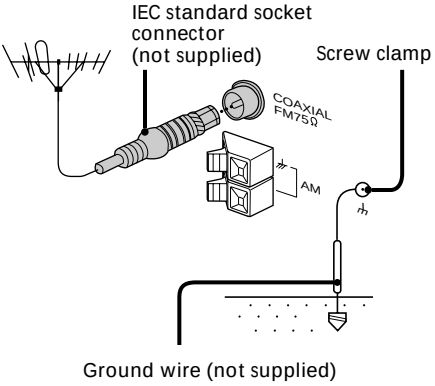
FM antenna

Connect the optional FM outdoor antenna. You can also use the TV antenna instead.

Jack type Ⓐ



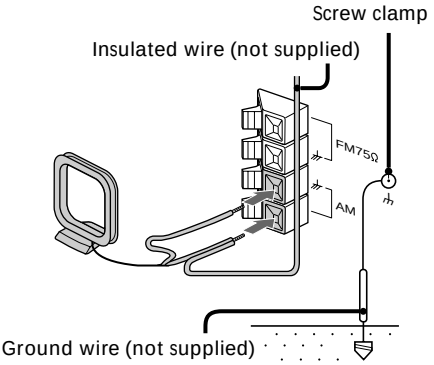
Jack type Ⓑ



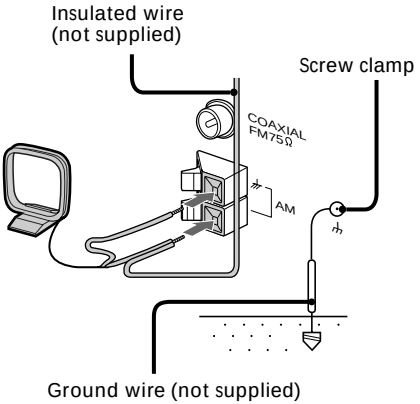
AM antenna

Connect a 6- to 15- meter (20- to 50- feet) insulated wire to the AM antenna terminal. Leave the supplied AM loop antenna connected.

Jack type Ⓐ



Jack type Ⓑ



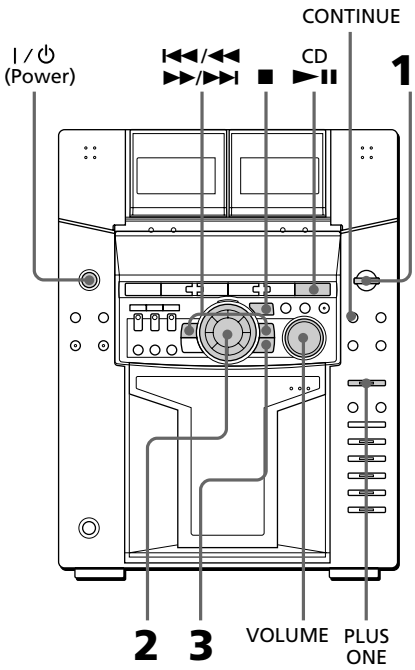
Important

If you connect an outdoor antenna, ground from ⏚ terminal with the screw clamp. To prevent a gas explosion, do not connect the ground wire to a gas pipe.

Playing a CD

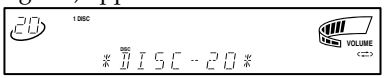
— Normal play

You can play up to 51 CDs in a row.



1 Press FUNCTION repeatedly until "CD" appears.

2 Turn the jog dial until the desired disc number or Disc Memo (see page 33) appears.



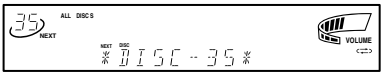
3 Press ENTER or CD ▶II (or CD ▷ on the remote).
The selected disc is set to the playing position, and starts playing.

To	You need to
Stop play	Press ■.
Pause	Press CD ▶II (II on the remote).
Resume playing after pause	Press CD ▶II (II on the remote).
Select a CD	Turn the jog dial clockwise (or press ↠ on the remote) or counterclockwise (or press ↞ on the remote) and release it when you reach the desired CD.
Advance or return 10 CDs at a time	Press ↟ on the remote (to move 10 CDs ahead) or ↡ (to move 10 CDs back).
Select a track	During play or pause, press ▶▶ / ▶▶I (▶▶I on the remote) repeatedly to go forward or I◀◀ / ◀◀ (I◀◀ on the remote) repeatedly to go back until you reach the desired track.
Find a point of a track	During play, press and hold down ▶▶ / ▶▶I (▶▶ on the remote) to go forward or I◀◀ / ◀◀ (◀◀ on the remote) to go back and release it at the desired point.
Play only the CD you have selected	Press CONTINUE repeatedly until "1 DISC" appears.
Play all CDs	Press CONTINUE repeatedly until "ALL DISCS" appears.
Adjust the volume	Turn VOLUME (or press VOLUME (VOL) +/– on the remote).
Stop playing and remove the disc	Open the front cover, then press ENTER. The PLUS ONE slot comes out automatically when the front cover is opened while the PLUS ONE button is lit up.

continued

To specify the next CD to play

While playing a disc, turn the jog dial until the desired disc number (or Disc Memo) and "NEXT" appear. To skip to the next disc right away, press ENTER.



To cancel the specified disc, press CONTINUE twice so that "NEXT" disappears.

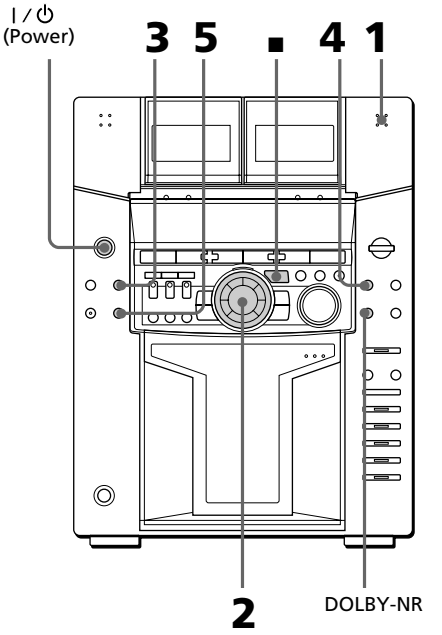
Tips

- Pressing CD ►II when the power is off automatically turns the power on and starts CD playback if there is a CD in the slot (One Touch Play).
- You can switch from another source to the CD player and start playing a CD just by pressing CD ►II (Automatic Source Selection).
- If there is no CD in the player, "–NO DISC–" appears.

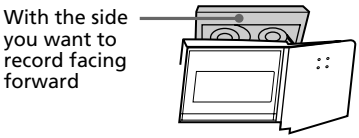
Recording a CD

— CD Synchro Recording

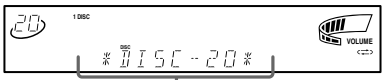
The CD SYNCHRO button lets you record from a CD to a tape easily. You can use TYPE I (normal) or TYPE II (CrO_2) tapes. The recording level is adjusted automatically.



1 Press ⏏ and insert a blank tape into deck B.



2 Turn the jog dial until the disc number or Disc Memo (see page 33) appears.



Disc number or Disc Memo

3 Press CD SYNCHRO.

Deck B stands by for recording and the CD player stands by for playback. ▷ (for front side) lights up.

4 Press DIRECTION repeatedly to select ⇄ to record on one side. Select ⇆ (or RELAY) to record on both sides.

5 Press ❚❚ PAUSE.

Recording starts.

To stop recording

Press ■.

Tips

- If you want to record from the reverse side, press TAPE B ◄ to light its indicator after pressing CD SYNCHRO.
- When you record on both sides, be sure to start from the front side. If you start from the reverse side, recording stops at the end of the reverse side.
- When you want to reduce the hiss noise in low-level high-frequency signals, press DOLBY-NR so that "DOLBY NR" appears after pressing CD SYNCHRO.

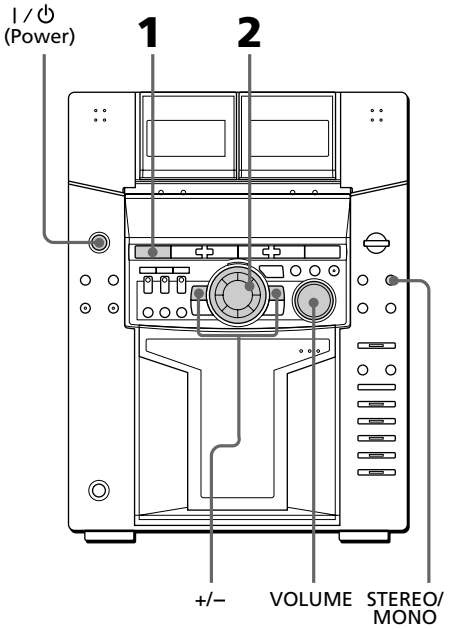
Note

You cannot listen to other sources while recording.

Listening to the radio

— Preset Tuning

Preset radio stations in the tuner's memory first (see "Step 4: Presetting radio stations").



continued

1 Press TUNER/BAND repeatedly until the band you want appears in the display.

The bands you can receive vary depending on the model you purchased. Be sure to check which bands you can receive.

Every time you press the button, the band changes as follows:

2 band model:

FM ⟷ AM

3 band model:

FM → MW → SW

or

FM → MW → LW

2 Turn the jog dial to tune in the desired preset station.

For MHC-F250AV

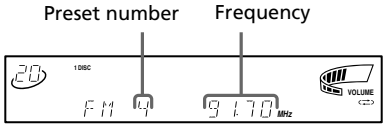
You can also use TUNING + or – on the remote to tune in preset stations.

For MHC-FR10 and MHC-F150

You can also use I◀◀ or ▶▶I on the remote to tune in preset stations.

Turn counter-clockwise for lower preset numbers.

Turn clockwise for higher preset numbers.



To	Do this
Turn off the radio	Press I / ⏻.
Adjust the volume	Turn VOLUME (or press VOLUME (VOL) +/– on the remote).

To listen to non-preset radio stations (from front panel only)

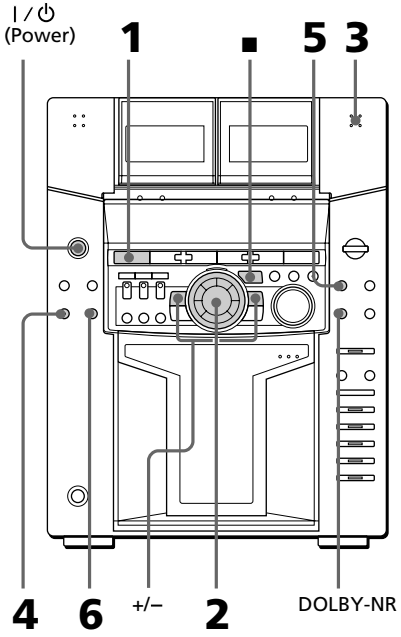
Use manual or automatic tuning in step 2. For manual tuning, press + (▶▶ / ▶▶I) or – (I◀◀ / ◀◀) repeatedly. For automatic tuning, press and hold + (▶▶ / ▶▶I) or – (I◀◀ / ◀◀).

Tips

- Pressing TUNER/BAND when the power is off automatically turns the power on and tunes to the last received station (One Touch Play).
- You can switch from another source to the radio just by pressing TUNER/BAND (Automatic Source Selection).
- When an FM program is noisy, press STEREO/MONO so that "MONO" appears in the display. There will be no stereo effect, but the reception will improve. Press the button again to restore the stereo effect.
- To improve broadcast reception, reorient the supplied antennas.

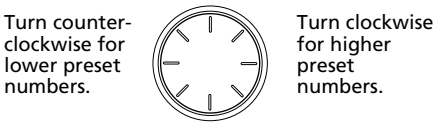
Recording from the radio

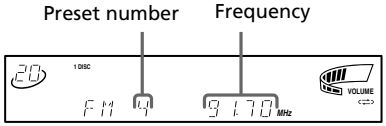
You can record the radio program on a tape by calling up a preset station. You can use TYPE I (normal) or TYPE II (CrO_2) tapes. The recording level is automatically adjusted.



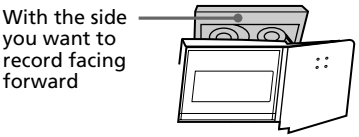
1 Press TUNER/BAND to select the band you want.

2 Turn the jog dial to tune in a preset station.





3 Press ⏏ and insert a blank tape into deck B.



4 Press ● REC.
Deck B stands by for recording.

5 Press DIRECTION repeatedly to select ⇄ to record on one side. Select ⇆ (or RELAY) to record on both sides.

6 Press ❚❚ PAUSE.
Recording starts.

To stop recording

Press ■.

Tips

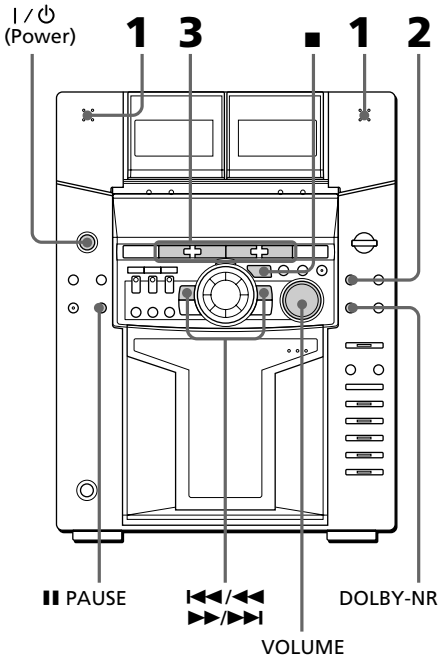
- If you want to record from the reverse side, press TAPE B ◄ to light its indicator after pressing ● REC.
- When you record on both sides, be sure to start from the front side. If you start from the reverse side, recording stops at the end of the reverse side.
- To record non-preset stations, use + and – in step 2 to tune in the desired station manually.
- When you want to reduce the hiss noise in low-level high-frequency signals, press DOLBY-NR so that "DOLBY NR" appears after pressing ● REC.
- If noise is heard while recording from the radio, move the respective antenna to reduce the noise.

Playing a tape

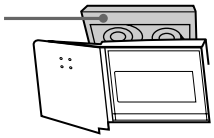
You can use any type of tape, TYPE I (normal), TYPE II (CrO_2) or TYPE IV (metal) , since the deck automatically detects the tape type. You can also use the AMS functions to quickly search for songs you want to hear.

For MHC-F250AV, press TAPE A ⏮ ⏭ or TAPE B ⏮ ⏭ on the remote to select either deck A or B.

For MHC-FR10 and MHC-F150, press TAPE A ▶ or TAPE B ▶ on the remote to select either deck A or B.



1 Press ⏏ and insert a recorded tape in deck A or B.



2 Press DIRECTION repeatedly to select ⇄ to play one side. Select 🔁* to play both sides.

To play both decks in succession, select RELAY (relay play).**

3 Press TAPE A (or TAPE B) ▶.

Press TAPE A (or TAPE B) ◀ to play the reverse side. The tape starts playing.

For MHC-F250AV

You can also use TAPE A (or TAPE B) ⏮ ⏭ on the remote. Press TAPE A (or TAPE B) ⏮ ⏭ again to play the reverse side.

For MHC-FR10 and MHC-F150

You can also use TAPE A (or TAPE B) ▶ on the remote. Press TAPE A (or TAPE B) ▶ again to play the reverse side.

* The deck stops automatically after repeating the sequence five times.

** Relay play always follows the following sequence:

Deck A (front side), Deck A (reverse side), Deck B (front side), Deck B (reverse side).

To	Do this
Stop play	Press ■.
Pause	Press ❚❚ PAUSE (❚❚ on the remote). Press again to resume play.
Fast-forward	Press ▶▶/▶▶❙ for the front side or ❙◀◀ /◀◀ for the reverse side (▶▶ or ◀◀ on the remote).
Rewind	Press ❙◀◀ /◀◀ for the front side or ▶▶/▶▶❙ for the reverse side (◀◀ or ▶▶ on the remote).
Remove the cassette	Press ⏏.
Adjust the volume	Turn VOLUME (or press VOLUME (VOL) +/– on the remote).

Tips

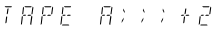
- Pressing TAPE A (or TAPE B) ► or ◄ when the power is off automatically turns the power on and starts tape playback if there is a tape in the deck (One Touch Play).
- You can switch from another source to the tape deck just by pressing TAPE A (or TAPE B) ► or ◄ (Automatic Source Selection).
- When you want to reduce the hiss noise in low-level high-frequency signals, press DOLBY-NR so that "DOLBY NR" appears.
- When dubbing tapes originally recorded with Dolby NR, the dubbed tape is automatically played with Dolby NR.

Searching for the beginning of a track (AMS)

During playback, press the ❙◀◀ /◀◀ or ▶▶/▶▶❙ button pointing in the same direction as the ◄ or ► indicator to go forward. Press the opposite direction to go back. (Or press ❙◀◀ or ▶▶❙ on the remote.)

The search direction, + (forward) or – (back), and number of songs being skipped (1~9) appear in the display.

Example: searching forward 2 songs



* AMS (Automatic Music Sensor)

Notes

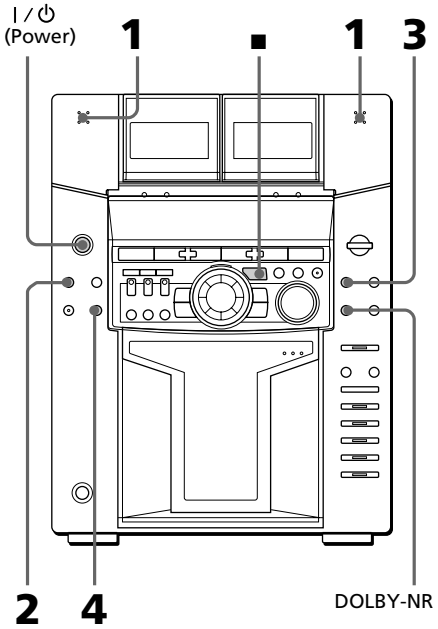
The AMS function may not operate correctly under the following circumstances:

– When the unrecorded space between songs is less than 4 seconds long.
– If completely different information is recorded on the left and right channels.
– When there are continuous sections of extremely low level or low frequency sound (like those of a baritone sax).
– When the unit is placed near a television. (In this case, we recommend moving the unit farther away from the television or turning off the television.)

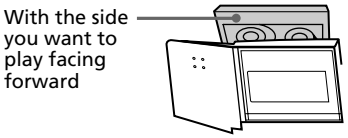
Recording from a tape

— High-speed Dubbing

You can use TYPE I (normal) or TYPE II (CrO_2) tapes. The recording level is automatically adjusted.



1 Press ⏏ and insert a recorded tape in deck A and a blank tape in deck B.



2 Press HI-SPEED DUBBING.
Deck B stands by for recording.

3 Press DIRECTION repeatedly to select ⇄ to record on one side. Select ⇆ (or RELAY) to record on both sides.

4 Press ❚❚ PAUSE.
Dubbing starts.

To stop dubbing

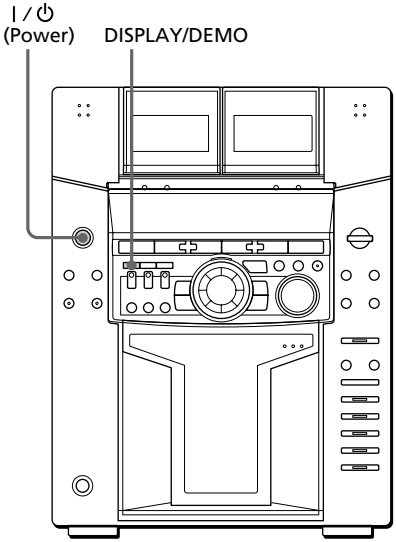
Press ■.

Tips

- When you dub on both sides, start recording from the front side. If you record from the reverse side, recording stops at the end of the reverse side.
- If you set DIRECTION to ⇆ when the tapes you use have different lengths, the tape in each deck reverses independently. If you select RELAY, the tapes in both decks reverse together.
- You don't have to set DOLBY NR, since the tape in deck B is automatically recorded in the same state as the tape in deck A.

Using the CD display

You can check the remaining time of the current track or that of the CD.



➡ Press DISPLAY/DEMO.

Each time you press the button, the display changes as follows:

During Stop mode

→ Disc number or Disc Memo [1]
↓
Artist name [2]
↓
TOC display [3]
↓
Clock display (for a few seconds)
↓
Effect name or "EFFECT ON (OFF)"
↓
Name of spectrum analyzer display pattern

During playback

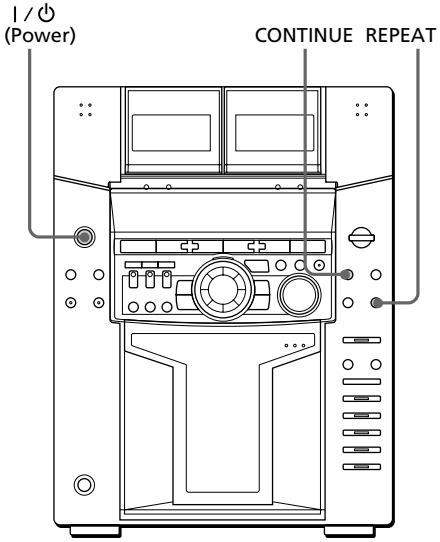
→ Playing time on the current track
↓
Track title [2]
↓
Clock display (for a few seconds)
↓
Effect name or "EFFECT ON (OFF)"
↓
Name of spectrum analyzer display pattern

[1] For labeled CD or CD with CD-TEXT.
[2] CD with CD-TEXT.
[3] TOC = Table of Contents; displays current disc number, total number of tracks on the disc, and total playing time of the disc.

Playing the CD tracks repeatedly

— Repeat Play

This function lets you repeat a single CD or all CDs in normal play, Shuffle Play and Program Play.



➡ Press REPEAT during playback until “REPEAT” appears in the display.

Repeat Play starts. Do the following procedure to change the repeat mode.

To repeat	Press
All the tracks on the current CD	CONTINUE repeatedly until “1 DISC” appears in the display.
All the tracks on all CDs	CONTINUE repeatedly all until “ALL DISCS” appears in the display.
Only one track	REPEAT repeatedly until “REPEAT 1” appears in the display while playing the track you want to repeat.

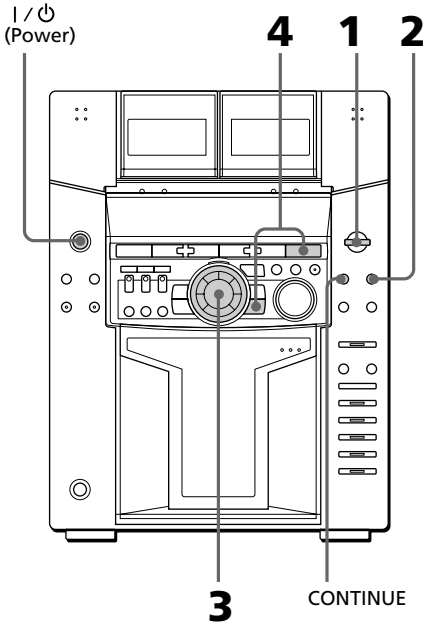
To cancel Repeat Play

Press REPEAT repeatedly so that “REPEAT OFF” appears in display.

Playing the CD tracks in random order

— Shuffle Play

You can play all the tracks on one CD or all CDs in random order.



1 Press FUNCTION repeatedly until "CD" appears in the display, then place a CD.

2 Press SHUFFLE repeatedly to light the SHUFFLE indicator and select "1 DISC" or "ALL DISCS".

"ALL DISCS" shuffles all the CDs in the player. "1 DISC" shuffles only one CD.

3 When you want to specify the disc for "1 DISC" Shuffle Play, turn the jog dial until the desired disc number or Disc Memo (see page 33) appears.

4 Press ENTER or CD ►II.

"🔀" appears and then all the tracks play in random order.

To cancel Shuffle Play

Press CONTINUE.

Tips

- You can start Shuffle Play by pressing SHUFFLE while playing.
- To skip a track, press ►►/►►I on the front panel (or ►►I on the remote).
- You can specify another disc during 1 DISC Shuffle Play.
  Turn the jog dial to specify the next disc. After all the tracks on the current disc are played in random order, the next disc starts playing. To skip to the next disc right away, press ENTER while playing the current disc.
  You cannot specify the next disc to play during ALL DISCS Shuffle Play.

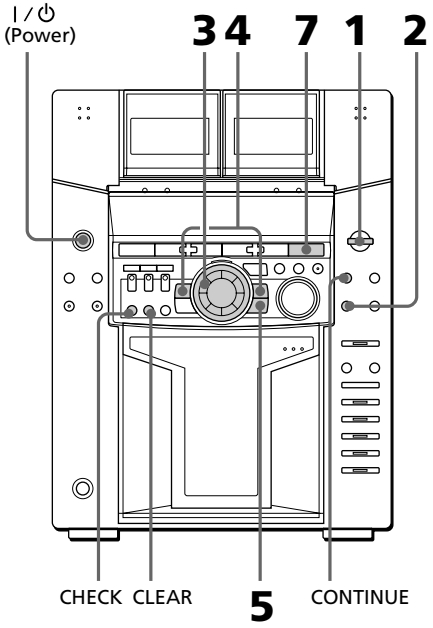
Note

Even if you press ■ or turn off the power during ALL DISCS Shuffle Play, the player remembers which discs/tracks were played and which were not. Therefore, if you want to start ALL DISCS Shuffle Play again from the beginning, be sure to repeat the procedure from Step 1.

Programming the CD tracks

— Program Play

You can make a program containing up to 32 “steps”, each “step” may contain either an individual track or an entire disc. The program is stored automatically.

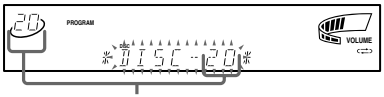


1 Press FUNCTION repeatedly until “CD” appears in the display.

2 Press PROGRAM.

3 Turn the jog dial until the desired disc number or Disc Memo appears.

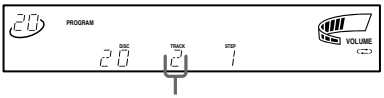
To program the whole disc, make sure “AL” is displayed below the TRACK indicator and skip to step 5.



Disc number

4 Press ⏮ / ◀◀ or ▶▶ / ⏭ until the desired track number appears.

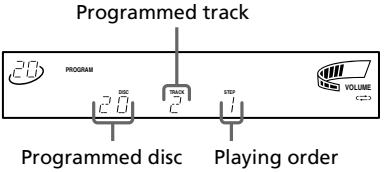
When the disc you select has Disc Memo, it appears and then switches to the following display.



Track number

5 Press ENTER to program the track.

The programmed track and corresponding step (playing order) appear in the display.



6 Program additional discs or tracks.

To program	Repeat Steps
Other discs	3 and 5
Other tracks on the same disc	4 and 5
Other tracks on other discs	3 to 5

7 Press CD ▶II.

All the tracks play in the order you selected.

To exit the program mode

Press CONTINUE.

To	You need to
Check the program	Press CHECK repeatedly. After the last track, "-END-" appears.
Clear a specific track or disc	Press CHECK until the track or disc you do not want appears, then press CLEAR.
Clear from the last track or disc	Press CLEAR. Each time you press the button, the last track or disc will be cleared.
Clear the entire program	Press and hold CLEAR until "CLEAR" is displayed.
Add tracks or discs to the end of the program	Follow the programming procedure.

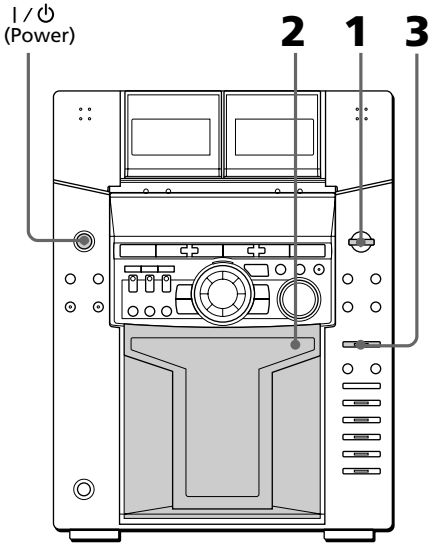
Tips

- When you press CD ►II, you can play the same program again.
- When you press PROGRAM during Continuous or Shuffle Play, the program will be played after the current track.
- If you replace discs, the programmed disc and track numbers remain until you erase them. So, the player plays only the existing disc and track numbers. However, the disc and track numbers that are not found in the player or on the disc are deleted from the program, and the rest of the program is played in the programmed order.

Playing your favorite CD independently

— Plus One Play

When you insert a disc into the PLUS ONE slot, you can play the disc independently from other discs. When using this function, the player is automatically set to the 1 DISC play mode.

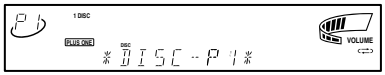


1 Press FUNCTION repeatedly until "CD" appears in the display.

2 Open the front cover.

3 Press PLUS ONE.

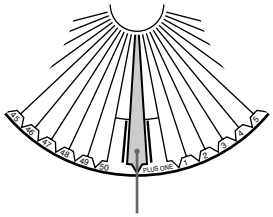
The indicator on the PLUS ONE button lights up and "PLUS ONE" appears.



continued

Playing your favorite CD independently (continued)

The PLUS ONE slot comes to the loading position.



PLUS ONE slot

4 Insert a disc into the PLUS ONE slot.

5 Close the front cover.

The player starts playing the disc in the PLUS ONE slot.

To cancel Plus One Play

Press PLUS ONE. The indicator on the PLUS ONE button goes off. The disc number in the display changes to 51 and you can play the disc as the 51st disc.

Tips

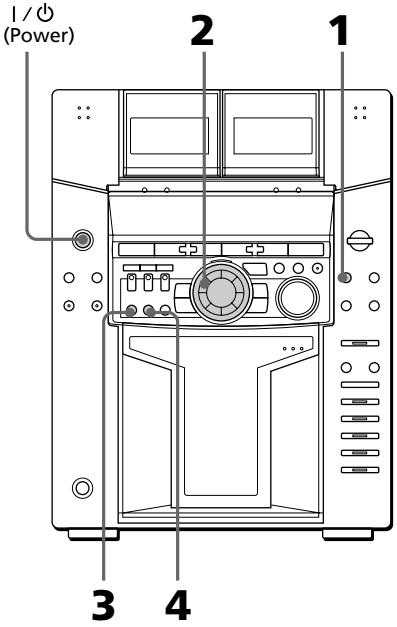
- To play a disc already inserted into the PLUS ONE slot, press PLUS ONE while the front cover is closed.
- You can start Shuffle Play during Plus One Play by pressing SHUFFLE.

Notes

- Activating Plus One Play during the program play mode automatically switches the unit to continuous play mode.
- Plus One Play will be canceled if;
  - — you turn the jog dial or press buttons to select other disc.
  - — you press PROGRAM, MEMO SCAN, MEMO SEARCH, or GROUP 1-5.
- The PLUS ONE slot comes to the loading position automatically if you open the front cover during Plus One Play. Do not put your hand inside the compartment nor change the disc before the rotary table comes to a complete stop. If you do, you may injure your hand or damage the disc.

Storing specific tracks (Delete bank)

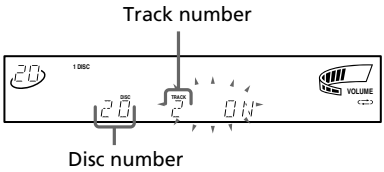
You can delete unwanted tracks and store only the tracks you want. When you select the disc containing a Delete Bank, you can play only the remaining tracks.



1 Press CONTINUE repeatedly to select 1 DISC or ALL DISCS before you start playing.

2 Turn the jog dial to select the disc.

3 Press CHECK repeatedly until the track you want to delete appears in the display.



4 Press CLEAR to delete the track.
"OFF" appears next to the track number.

If you want to restore the track, press CLEAR again so that "ON" appears next to the track number.

5 Repeat Step 3 and 4 to delete more tracks.

To recover all the tracks you have deleted

1 Press ■ to stop playback.
2 Hold down CLEAR until "ALL ON" appears in the display.

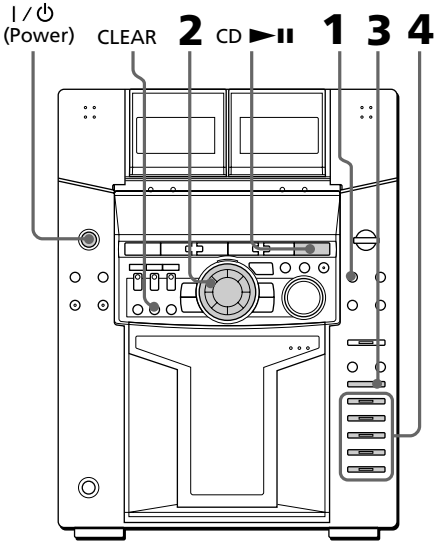
Tip

The deleted tracks are skipped even in the Shuffle or Program Play mode (when the whole disc containing a Delete Bank is programmed as one step).

Grouping your favorite CDs

— Group File

You can file the discs into different groups and then play the grouped discs. Discs can be filed into only one group at a time. No more than 51 discs (total) can be filed.



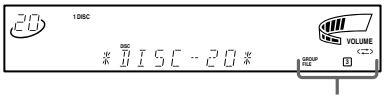
Filing a disc

1 Press REPEAT if "REPEAT" is displayed and/or CONTINUE if "PROGRAM" is displayed.

2 Turn the jog dial to select a disc.

3 Press GROUP FILE.
"SEL G1-G5" appears in the display.

4 Press a group key to file the disc into the respective group.
"GROUP FILE" appears momentarily and the respective group file number indicator lights up. (If the same disc was previously filed into a different group, the new group file number replaces the previous one.)



Group file number indicators (When disc assigned to group 3)

5 Repeat steps 2 to 4 to file other discs.

Playing a group

1 Press the group key corresponding to the group you want to play.
The indicator on the group key lights up.

2 Press CD ►II to start playing the discs in the selected group.

To switch to another disc in the same group

Use the jog dial.

To cancel group playback

Press the corresponding group key again to turn off its indicator. "GROUP OFF" appears momentarily in the display and playback continues.

Tips

- When a CD is filed in a group, the GROUP FILE and respective group number indicators appear in the display whenever that CD is selected.
- To enter a name for a group, select the corresponding group number in step 3 of "Labeling a CD" (on page 33) and perform the subsequent operations to enter the name you desire.

To delete a disc from a group

Do steps 2 and 3 of "Filing a disc" then press CLEAR. "GROUP ERASE" appears momentarily and the group file number indicator goes out.

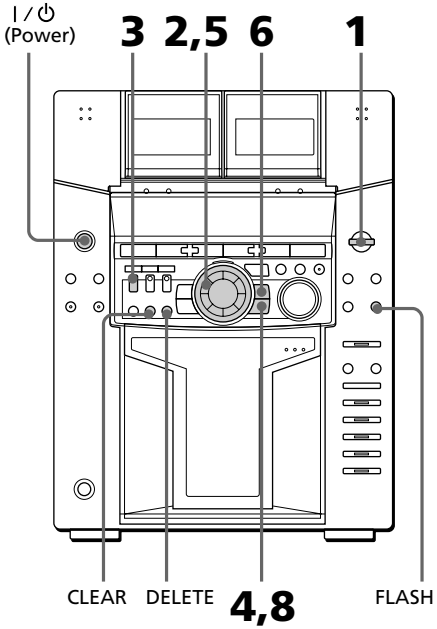
To delete all discs from a group at once

While holding down a group key you want to clear, press CLEAR.

Labeling a CD

— Disc Memo

You can label each disc using up to 11 characters. When you select a CD-TEXT disc, the first 11 characters of the disc title are stored as a disc memo. Whenever you load the labeled CD, the label (Disc Memo) appears in the display.



1 Press FUNCTION repeatedly until "CD" appears.

2 Turn the jog dial until the disc number to which you want to label appears.

When you label a disc with the front cover closed, the disc number of the disc at the playing position appears.

When you label a disc with the front cover open, the disc number at the loading position appears.

3 Press INPUT.

"DISC MEMO" flashes in the display.

To label a group (1~5) instead of the current disc, turn the jog dial to display the corresponding group number.

4 Press ENTER.

5 Turn the jog dial until the desired character appears.

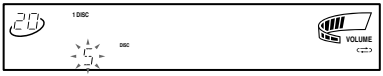
The cursor disappears and the first space for the disc title flashes.

To select characters on the unit

Turn the jog dial to the left or right.

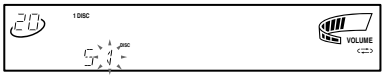
To select characters on the remote

Press ↑ or ↓ until the desired type of character appears, then press ← or → to select the desired character.



6 Press ▶▶/▶▶I (or ▶▶I on the remote) to enter the character.

The cursor shifts to the right and waits for input of the next character.



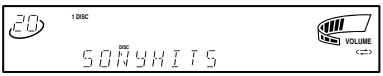
7 Repeat steps 5 and 6 to input more characters.

If you make a mistake

Press I◀◀ /◀◀ or ▶▶/▶▶I to move the cursor to the position you want to correct, then use the jog dial to select the appropriate character or press DELETE to remove the character.

continued

8 Press ENTER to complete the labelling procedure.
The Disc Memo lights up in the display.



Repeat Steps 2 to 8 to label other discs or groups.

Note

- The Disc Memo stores the number of the slot in which the CD was inserted. Re-enter the Disc Memo when inserting a new CD into that slot.

To erase a Disc Memo

1 Follow Steps 1 through 4 of "Labeling a CD" on page 33 to select the Disc Memo you want to erase.

2 Press CLEAR.
The Disc Memo disappears.

3 Press ENTER.

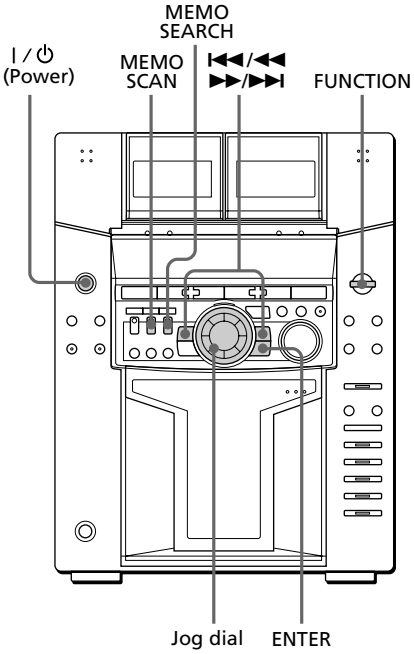
To erase all Disc Memos of all discs

While holding down INPUT, press FLASH. "ALL ERASE" appears in the display, and all Disc Memos will be erased.

Tips

- When you replace a disc with a CD-TEXT disc, the Disc Memo of the CD-TEXT disc is restored automatically.
  The Disc Memo for the CD-TEXT disc is no longer stored (disappears) each time the CD is removed.
  Note that you cannot change the Disc Memo of a CD-TEXT disc.
- You can label discs while the front cover is open.

Locating a specific CD



Locating a disc by scanning each disc title *— Memo Scan*

You can locate a disc you want to play quickly by scanning the Disc Memos (see page 33) in the display and starting playback.

Note that you cannot use this function in the ALL DISCS Shuffle Play mode.

1 Press FUNCTION repeatedly until "CD" appears.

2 Press MEMO SCAN.
"MEMO SCAN" appears, and the lamp on the ENTER button flashes.
Disc Memos appear in order.

3 Press ENTER when the Disc Memo of the disc you want to play appears.

The disc is set to the playing position, and the player starts playing.

In Program Play mode, the disc will be added to the end of the program.

Note

If "NO ENTRY" appears, no disc has been labeled. Try the Memo Scan function again after labeling the discs.

Locating a disc by searching a specific disc title

— Memo Search

You can search and locate a disc you want by inputting the first character used in the Disc Memo (see page 33).

1 Press FUNCTION repeatedly until "CD" appears.

2 Press MEMO SEARCH.

"MEMO SEARCH" appears and the lamp on the ENTER button flashes.

3 Press ⏮/◀◀ or ▶▶/⏭ repeatedly to input the first character.

The characters appear in the following order:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 0 1 2 3 4 5 6 7 8 9

If "A-NOT FOUND" appears in the display while inputting the first character, no disc has been labeled using the input character.

Note

When searching input characters, blanks and symbols before the first character in the Disc Memo are ignored.

4 Turn the jog dial to find the Disc Memo you want.

As you turn the jog dial, the Disc Memos starting with the input character appear in the display.

5 Press ENTER to select the disc.

In Program Play mode, the disc will be added to the end of the program.

To locate a disc on the remote

In step 4, press the ← or → key on the remote until the Disc Memo that you want appears. Skip step 5.

To cancel Memo Search

Press MEMO SEARCH again.

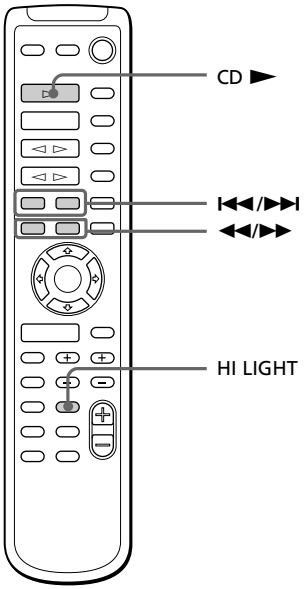
Tip

If there are no more Disc Memos starting with the character input in Step 3, the unit automatically changes to the next input character when you press ⏮/◀◀ or ▶▶/⏭.

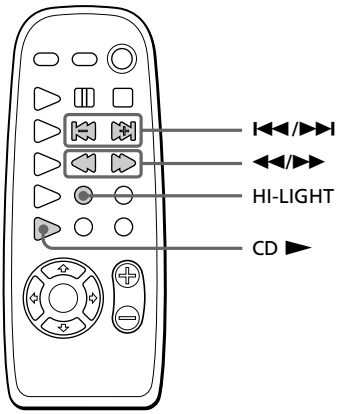
Playing highlights of the CD

Some CD-TEXT discs have a feature to play only the highlights of the discs.

For MHC-F250AV



For MHC-FR10 and MHC-F150



➡ Press HI-LIGHT on the remote in the stop mode.

"HI-LIGHT" flashes while playing disc highlights.

Tips

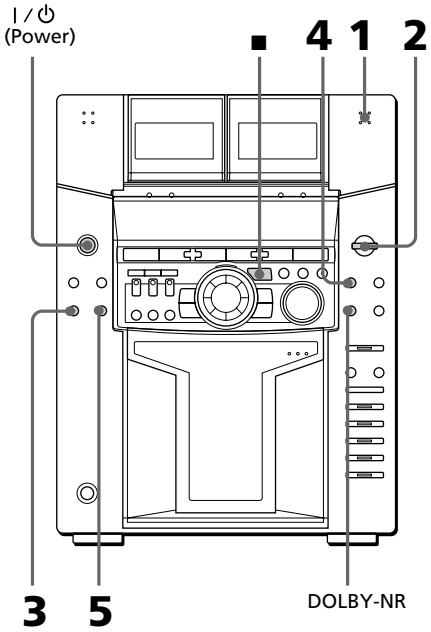
- During play of disc highlights, you can return to normal play by pressing CD ► or ◄◄ or ►► on the remote.
- During play of disc highlights, you can move to an earlier or later highlight song by pressing I◄◄ or ►►I on the remote.
- During play of disc highlights, you can use Repeat Play function.

  To repeat all the highlight songs, keep pressing REPEAT until "REPEAT" appears.

  To repeat only the current highlight song, keep pressing REPEAT until "REPEAT 1" appears.
- If you press HI-LIGHT while selecting discs without this feature, "NO HIGHLIGHT" appears.

Recording on a tape manually

You can record from CD, tape, or radio as you like. For example, you can record just the songs you want or record from the middle of the tape. The recording level is adjusted automatically.



1 Insert a blank tape into deck B.

2 Press FUNCTION repeatedly until the source you want to record (e.g., CD) appears.

3 Press ● REC.

Deck B stands by for recording. The indicator on TAPE B ► (for front side) lights up.

4 Press DIRECTION repeatedly to select ⇄ to record on one side. Select ⟲ (or RELAY) to record on both sides.

5 Press ❚❚ PAUSE.

Recording starts.

6 Start playing the source to be recorded.

To	Press
Stop recording	■.
Pause recording	❚❚ PAUSE.

Tips

- If you want to record from the reverse side, press TAPE B ◄ to light its indicator after pressing ● REC.
- When you want to reduce the hiss noise in low-level high-frequency signals, press DOLBY-NR so that "DOLBY NR" appears after pressing ● REC.

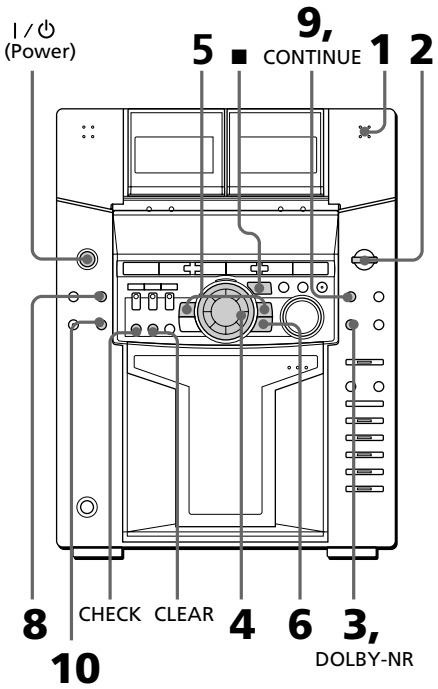
Note

Pressing FUNCTION with "TAPE B" selected starts silent recording (blank recording).

Recording a CD by specifying track order

— Program Edit

You can record tracks from all the CDs in the order you want. When programming, make sure the playing times for each side do not exceed the length of one side of the tape.



1 Insert a blank tape into deck B.

2 Press FUNCTION repeatedly until "CD" appears in the display.

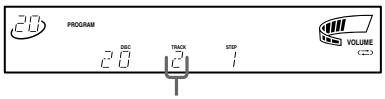
3 Press PROGRAM.

4 Turn the jog dial until the desired disc number or Disc Memo appears.

To program the whole disc, make sure "AL" is displayed below the TRACK indicator and skip to step 6.

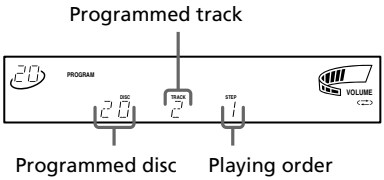
5 Press ⏮ / ◀◀ or ▶▶ / ⏭ until the desired track number appears.

When the disc you select has Disc Memo, it appears and then switches to the following display.



6 Press ENTER to program the track.

The programmed track and corresponding step (playing order) appear in the display.



7 Program additional discs or tracks.

To program	Repeat Steps
Other discs	4 and 6
Other tracks on the same disc	5 and 6
Other tracks on other discs	4 to 6

8 Press CD SYNCHRO.

Deck B stands by for recording and the CD player stands by for playback. ► (for front side) lights up.

9 Press DIRECTION repeatedly to select ⇄ to record on one side. Select ↻ (or RELAY) to record on both sides.

10 Press ❚❚ PAUSE.

Recording starts.

To stop recording

Press ■.

To check the program

Press CHECK repeatedly. After the last track, "-END-" appears.

To clear a specific track or disc

Press CHECK repeatedly to display the step you want to clear, then press CLEAR.

To clear the entire program

Press and hold CLEAR.

To exit the program mode

Press CONTINUE.

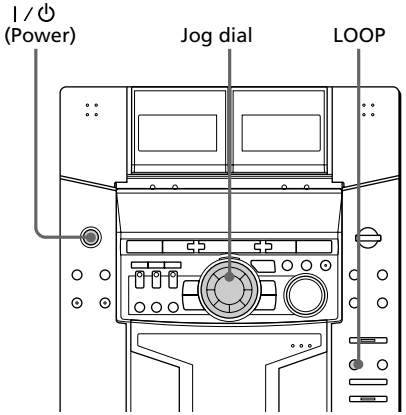
Tips

- If a track is cut off during recording on both sides (because the tape ended while recording on the A side), the track will automatically be recorded from the beginning on the B side.
- When you want to reduce the hiss noise in low-level high-frequency signals, press DOLBY-NR so that "DOLBY NR" appears after pressing CD SYNCHRO.

Looping part of a CD

— Loop

With the loop function, you can repeat part of a CD during playback. This lets you create original recordings.



➡ Press and hold LOOP during playback at the point you want to start the Loop function, and release to resume normal play.

To adjust the loop length

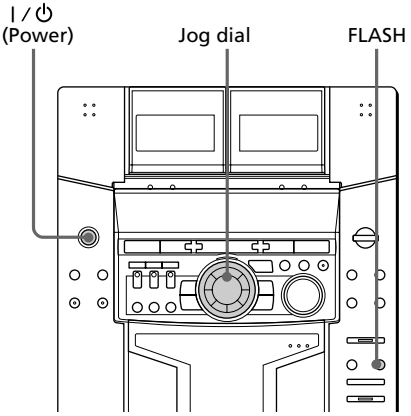
Turn the jog dial while holding LOOP to select different loop lengths (LOOP 1~20).

Or press ↑ or ↓ while holding LOOP on the remote (for MHC-F250AV) or press LOOP on the remote repeatedly (for MHC-F150/ MHC-FR10) to select different loop lengths.

Flashing part of a CD

— Flash

With the flash function, you can "flash" the CD sound during playback. This lets you create original recordings.



➡ Press and hold FLASH during playback at the point you want to start the Flash function, and release to resume normal play.

To adjust the flash length

Turn the jog dial while holding FLASH (or (MHC-F250AV only) press ↑ or ↓ while holding FLASH on the remote) to select different flash lengths (FLASH 1~20).

To use LOOP and FLASH together

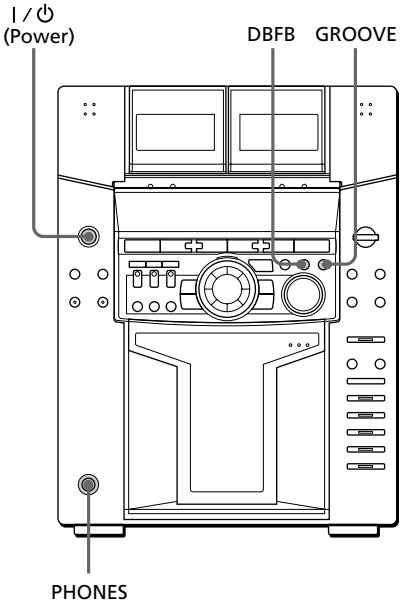
Press and hold both LOOP and FLASH at the same time.

Notes

- The loop and flash length cannot be adjusted during this operation. Adjust the loop and flash lengths independently beforehand if necessary.
- To record the flash effect, use the analog (VIDEO/ MD OUT) connections or this unit's tape deck.

Adjusting the sound

You can reinforce the bass, create a more powerful sound, and listen with headphones.



To reinforce bass (DBFB)

Press DBFB*.

Every time you press the button, the display changes as follows:

DBFB NORMAL (DBFB ▙\\\ )
↓
DBFB HIGH (DBFB ▙\\\\\\ )
↓
DBFB OFF (off)

* DBFB = Dynamic Bass Feedback

For a powerful sound (GROOVE)

Press GROOVE. The volume switches to power mode, DBFB is automatically set to full strength, the equalizer curve changes, and the "GROOVE" button lights up. Press GROOVE again to return to the previous volume.

Notes

- With some songs, the music will sound distorted when you use the DBFB system with the graphic equalizer if the bass is too strong. Adjust the bass slowly while listening to music so that you can monitor the effect of the adjustment.
- Cancelling GROOVE sets DBFB to "DBFB ▙\\\ " and flattens the equalizer curve. To cancel the DBFB level, press DBFB until the indication disappears. Adjust the equalization to obtain the effect you desire.

To listen through the headphones

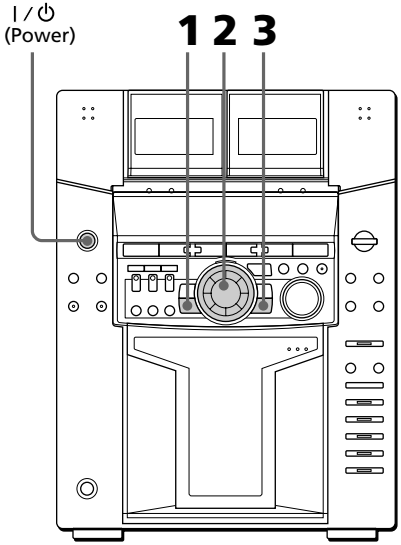
Connect the headphones to PHONES jack. No sound will come from the speakers.

Note

If you have connected a super woofer, please note that sound comes from the super woofer even when the headphones are connected. Turn off the power of the super woofer when using headphones.

Selecting the audio emphasis

The audio emphasis menu lets you select the sound characteristic according to the sound you are listening to.



1 Press FILE SELECT.
The last effect chosen appears in the display.

2 Use the jog dial to select the preset you desire.
The preset name appears in the display. See the chart "Music menu options".

3 Press ENTER.

To cancel the effect

Perform the previous operations, selecting "EFFECT OFF" in step 2.

Music menu options

"SUR ▮▮▮■▮▮▮" appears if you select an effect with surround effects.

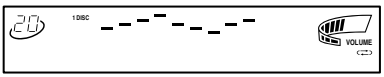
Effect	For
ROCK POP JAZZ DANCE SOUL	Standard music sources
ACTION ROMANCE DRAMA SPORTS	Soundtracks and special listening situations
FLAT	Turning the effect off

To change the spectrum analyzer display

Press DISPLAY/DEMO repeatedly to select one of the displays below.

Pattern ①

Pattern ②



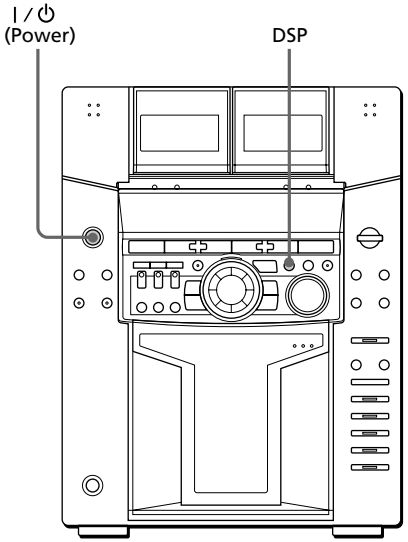
Note

The spectrum analyzer display changes each time you cycle through the information display (i.e., function → clock → effect).

Selecting the surround effect

You can enjoy surround effects.

MHC-F250AV



➡ Press DSP repeatedly to select the surround effect you desire.

SURROUND ON: Reproduces stereo sources in surround sound.

HALL: Reproduces the acoustics of a concert hall.*

THEATER: Reproduces the acoustics of a movie theater.*

ENHANCED THEATER: Reproduces the acoustics of a large movie theater.*

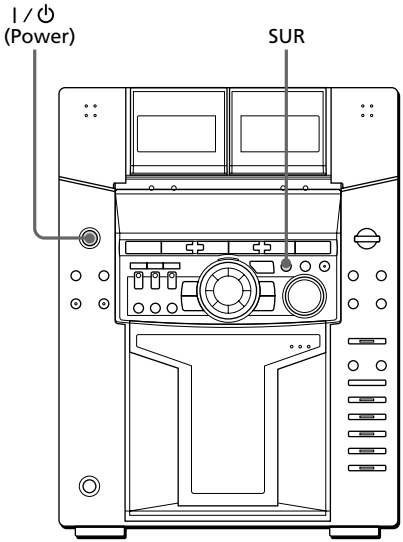
DSP OFF: Turns off the DSP mode.

* The indicator on the front panel's DSP button lights up.

Note

When you choose other sound effects, the surround effects will be canceled.

MHC-FR10 and MHC-F150



➡ Press SUR to turn the surround effect on or off.

Every time you press the button, the display changes as follows:

SURROUND ON (SUR)
↓
SURROUND OFF (off)

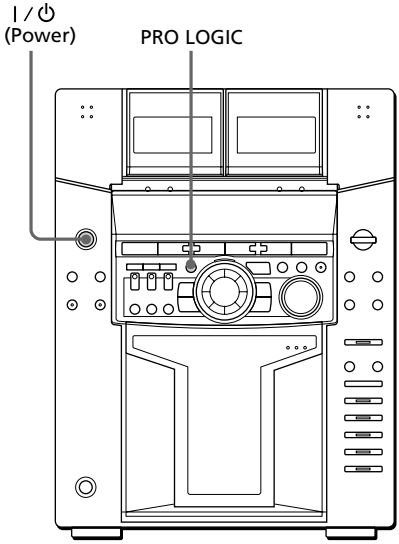
Note

When you choose other sound effects, the surround effects will be canceled.

Enjoying Dolby Pro Logic Surround sound

(For MHC-F250AV only)

You can enjoy the Dolby Pro Logic Surround sound of videos that are Dolby Surround encoded (DOLBY SURROUND). Complete the setup and adjustments first (see page 7).



➡ Press PRO LOGIC (or PRO LOGIC ON/OFF on the remote) while playing a program source.
The indicator on the front panel's PRO LOGIC button lights up.

To cancel the Dolby Pro Logic Surround sound

Press PRO LOGIC (or PRO LOGIC ON/OFF on the remote) again to turn off the indicator on the front panel's PRO LOGIC button.

Notes

- You can't use both Dolby Pro Logic Surround sound and the DSP surround effects at the same time.
- When recording the sound, be sure to turn off Dolby Pro Logic Surround sound.

Using the Radio Data System (RDS)

(For European model only)

What is the Radio Data System?

Radio Data System (RDS) is a broadcasting service that allows radio stations to send additional information along with the regular program signal. This tuner offers convenient RDS features like station name display and location of stations by program type. RDS is available only on FM stations.*

Note

RDS may not work properly if the station you are tuned to is not transmitting the RDS signal properly or if the signal strength is weak.

* Not all FM stations provide RDS service, nor do they provide the same type of services. If you are not familiar with the RDS system, check with your local radio stations for details on RDS services in your area.

Receiving RDS broadcasts

➡ Simply select a station from the FM band. When you tune in a station that provides RDS services, the station name appears in the display.

To check the RDS information

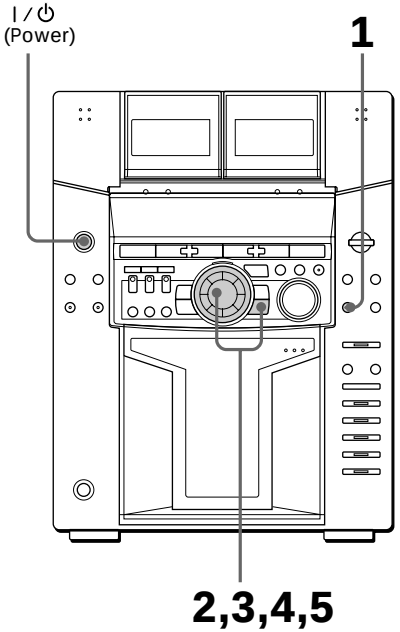
Each time you press DISPLAY / DEMO, the display changes as follows:

Station name*
↓
Frequency
↓
Program type*
↓
Clock display
↓
Effect name or “EFFECT ON (OFF)”

* If the RDS broadcast is not received, the station name and program type may not appear in the display.

Locating a station by program type (PTY)

You can locate a station you want by selecting a program type. The unit tunes in the type of programs currently being broadcast from the RDS stations stored in the tuner’s preset memory.



continued

Using the Radio Data System (RDS) (continued)

1 Press PTY.

2 Turn jog dial to select the program type you want. See the "List of program types" section below.

3 Press ENTER.

The unit starts searching the preset RDS stations ("SEARCH" and the selected program type are shown alternately in the display).

When the tuner receives a program, the preset station number flashes.

4 Turn jog dial to display the preset station number you desire.

5 Press ENTER while the preset station number is flashing.

To cancel PTY search

Press PTY again.

List of program types (PTY)

AFFAIRS
Topical programs that expand on current news

ALARM
Emergency broadcasts

CULTURE
Programs about national or regional culture

DRAMA
Radio plays and serials

EDUCATION
Educational programs, such as "how-to" programs and advice

INFORMATION
Programs about consumer affairs, medical advice, and weather

LIGHT MUSIC
Classical music, such as instrumental, vocal, and choral works

M.O.R. MUSIC
Easy listening (middle of the road music)

NEWS
News programs

OTHER MUSIC
Music, such as jazz, rhythm and blues, and reggae

POP MUSIC
Popular music programs

ROCK MUSIC
Rock music programs

SCIENCE
Programs about the natural sciences

CLASSICS
Performances of major orchestras, chamber music, opera, etc.

SPORT
Sports programs

VARIED
Programs containing celebrity interviews, panel games, and comedy

NONE
Any programming not defined above

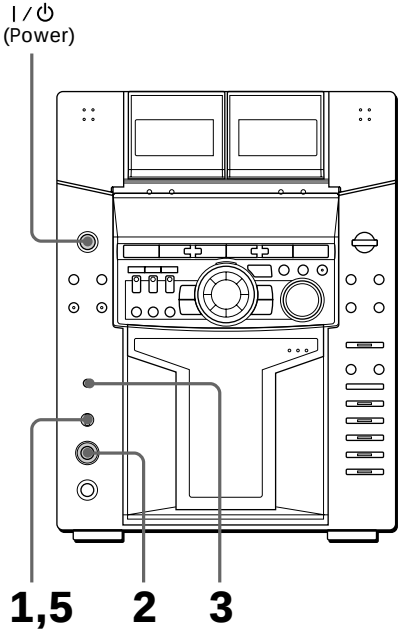
Note

"NO PTY" appears when the program type that you selected is not currently being broadcast.

Singing along: Karaoke

(Except for Australian and European models)

You can sing along with any stereo CD or tape by turning down the singer's voice. You need to connect an optional microphone.



1 Turn MIC LEVEL to MIN to turn down the microphone control level.

2 Connect an optional microphone to MIX MIC.

3 Press KARAOKE PON / MPX repeatedly to obtain the karaoke effect you desire.

Every time you press the button, the display changes as follows:

KARAOKE PON → MPX R → MPX L
↑ EFFECT OFF (ON) ←

The 🎤 indicator appears in the display when a karaoke mode is activated.

To sing karaoke with decreasing the vocal level of a CD, select "KARAOKE PON". To sing karaoke of multiplex CD or tape, select "MPX R" or "MPX L".

4 Start playing the music and adjust the volume.

5 Adjust the microphone volume by turning MIC LEVEL.

When you are done

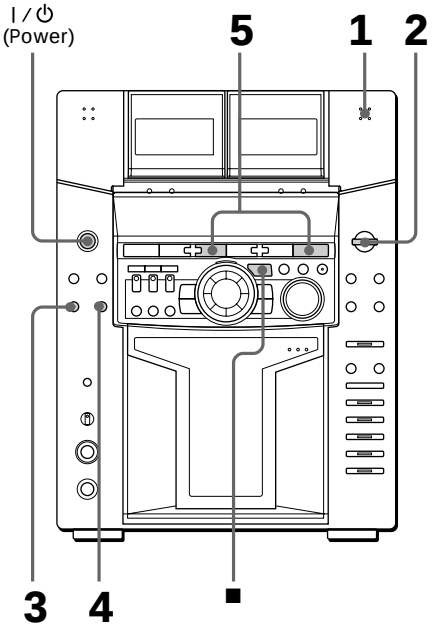
Turn MIC LEVEL to MIN and disconnect the microphone from MIX MIC, then press KARAOKE PON / MPX repeatedly so that "🎤" disappears.

Note

With some songs, vocals may not be cancelled when you select "KARAOKE PON".

continued

Mixing and recording sounds



1 Do the above steps 1 to 5. Then, insert a tape in deck B.

2 Press FUNCTION repeatedly to select the source you desire and set it to pause mode.

3 Press ● REC.

4 Press ❚❚ PAUSE.
Recording starts.

5 Press CD ►❚❚ to start playing the CD player (or TAPE A ► for tape deck A).
Playback starts. Start singing along with the music.

To stop recording

Press ■.

Tips

- If acoustic feedback (howling) occurs, move the microphone away from the speakers or change the direction of the microphone.
- If you want to record your voice through the microphone only, you can do so by selecting the CD function and not playing a CD.

Notes

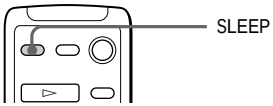
- If you recall a sound effect, the karaoke mode is cancelled.
- The instrumental sound may be reduced as well as the singer's voice when the sound is recorded in monaural.
- The singer's voice may not be reduced when:
  - —only a few instruments are playing.
  - —a duet is being played.
  - —the source has strong echoes or chorus.
  - —the singer's voice deviates from the center.
  - —the voice on the source is singing in high soprano or tenor.

Falling asleep to music

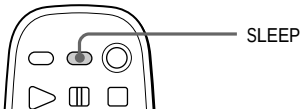
— Sleep Timer

You can let the system turn off at the preset time, so you can sleep to the music. You can preset the time to be turned off by 10 minutes.

For MHC-F250AV



For MHC-FR10 and MHC-F150



➡ Press SLEEP.

Every time you press the button, the minute display (the turn-off time) changes as follows:

AUTO → 90min → 80min → 70min → ⋯ → 10min → OFF → AUTO ⋯

When you choose "AUTO"

The power turns off when the current CD or tape finishes playback (for up to 100 minutes).

To check the remaining time

Press SLEEP once.

To change the time to turn off

Select the time you want by pressing SLEEP.

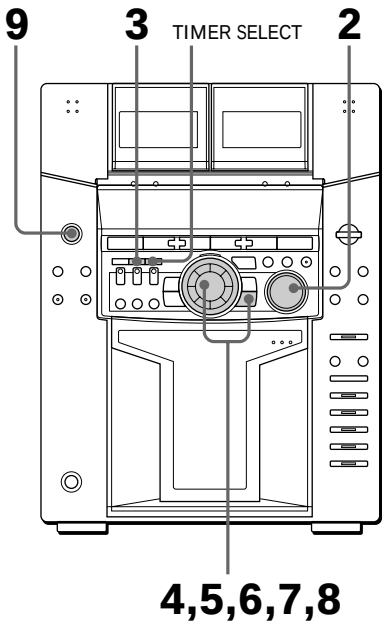
To cancel the Sleep Timer function

Press SLEEP repeatedly until "OFF" appears.

Waking up to music

— Wake-up Timer

You can wake up to music at a preset time every day. Make sure you have set the clock (see "Step 3: Setting the time").



1 Prepare the music source you want to play.

- CD: Insert a CD. To start from a specific track, make a program (see "Programming the CD tracks").
- Tape: Insert an tape with the side you want to play facing forward.
- Radio: Tune in the preset station you want (see "Step 4: Presetting radio stations").

2 Adjust the volume.

continued

3 Press CLOCK / TIMER SET.

"SET (DAILY 1)" appears.

4 Turn jog dial to select DAILY 1 or 2, then press ENTER.

"ON" appears and the hour digits flash in the display.

5 Set the time to start playback.

Turn jog dial to set the hour, then press ENTER.

The minute indication starts flashing.

Turn jog dial to set the minute, then press ENTER.

The hour indication flashes again.

6 Set the time to stop playback following the above procedure.

7 Turn jog dial until the music source you want appears.

The indications change as follows:

→ TUNER ↔ CD PLAY ←
→ TAPE PLAY ←

8 Press ENTER.

The type of timer (DAILY 1 or DAILY 2), followed by the start time, stop time and the music source, appears, then the original display appears.

9 Turn off the power.

To check the setting

Press TIMER SELECT and turn the jog dial to select the respective mode (DAILY 1 or DAILY 2), then press ENTER.

To change the setting, start over from step 1.

To cancel the timer operation

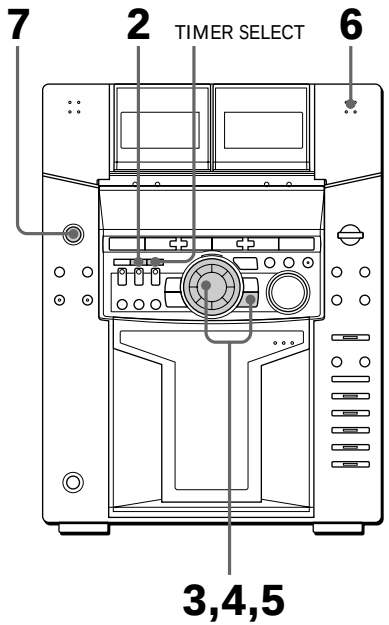
Press TIMER SELECT and turn the jog dial to select "TIMER OFF", then press ENTER.

Tip

The power turns on 15 seconds before the preset time.

Timer-recording radio programs

To timer-record, you must preset the radio station (see “Step 4: Presetting radio stations”) and set the clock (see “Step 3: Setting the time”) beforehand.



1 Tune in the preset radio station (see “Listening to the radio”).

2 Press CLOCK / TIMER SET.
“SET (DAILY 1)” appears.

3 Turn jog dial to select REC, then press ENTER.
“ON” appears and the hour digits flash in the display.

4 Set the time to start recording.
Turn the jog dial to set the hour, then press ENTER.
The minute indication starts flashing.

Turn the jog dial to set the minute, then press ENTER.
The hour indication flashes again.

5 Set the time to stop recording following the above procedure.
The start time appears, followed by the stop time, the preset radio station to be recorded (e.g., “TUNER FM 5”), then the original display appears.

6 Insert a recordable tape.

7 Turn off the power.
When the recording starts, the volume level is set to the minimum.

To check the setting

Press TIMER SELECT and turn the jog dial to select “REC”, then press ENTER.

To change the setting, start over from step 1.

To cancel the timer operation

Press TIMER SELECT and turn the jog dial to select “TIMER OFF”, then press ENTER.

Note

If the power is on at the preset time, the recording will not be made.

Precautions

On operating voltage

Before operating the system, check that the operating voltage of your system is identical with the voltage of your local power supply.

On safety

- The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.
- Unplug the system from the wall outlet (mains) if it is not to be used for an extended period of time. To disconnect the cord (mains lead), pull it out by the plug. Never pull the cord itself.
- Should any solid object or liquid fall into the component, unplug the stereo system and have the component checked by qualified personnel before operating it any further.
- The AC power cord must be changed only at the qualified service shop.

On placement

- Place the stereo system in a location with adequate ventilation to prevent heat build-up in the stereo system.
- Do not place the unit in an inclined position.
- Do not place the unit in locations where it is;
  — Extremely hot or cold
  — Dusty or dirty
  — Very humid
  — Vibrating
  — Subject to direct sunlight

On operation

- If the stereo system is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense on the lens inside the CD player. Should this occur, the system will not operate properly. Remove the CD and leave the system turned on for about an hour until the moisture evaporates.
- When you move the system, take out any discs.

If you have any questions or problems concerning your stereo system, please consult your nearest Sony dealer.

Notes on CDs

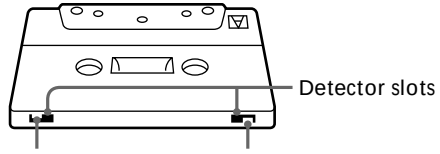
- Before playing, clean the CD with a cleaning cloth. Wipe the CD from the center out.
- Do not use solvents such as benzene, thinner, commercially available cleaners or anti-static spray intended for vinyl LPs.
- Do not expose the CD to direct sunlight or heat sources such as hot air ducts, nor leave it in a car parked in direct sunlight.

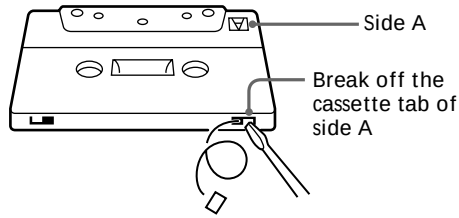
Cleaning the cabinet

Use a soft cloth slightly moistened with mild detergent solution.

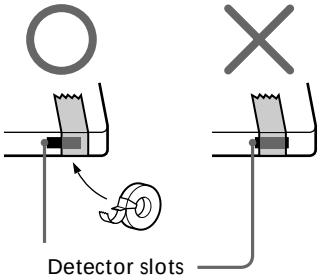
To save a tape permanently

To prevent a tape from being accidentally recorded over, break off the cassette tab from side A or B as illustrated.





If you later want to reuse the tape for recording, cover the broken tab with adhesive tape. However, be careful not to cover the detector slots which allow the tape player to automatically detect the type of tape.



Before placing a cassette in the tape deck

Take up any slack in the tape. Otherwise the tape may get entangled in the parts of the tape deck and become damaged.

When using a tape longer than 90 minutes

The tape is very elastic. Do not change the tape operations such as play, stop, and fast-winding etc. frequently. The tape may get entangled in the tape deck.

Cleaning the tape heads

Clean the tape heads after every 10 hours of use. When the tape heads become dirty;

— the sound is distorted
— there is a decrease in sound level
— the sound drops out
— the tape does not erase completely
— the tape does not record

Make sure to clean the tape heads before you start an important recording or after playing an old tape. Use separately sold dry-type or wet-type cleaning cassette. For details, refer to the instructions of the cleaning cassette.

Demagnetizing the tape heads

Demagnetize the tape heads and the metal parts that have contact with the tape every 20 to 30 hours of use with a separately sold demagnetizing cassette. For details, refer to the instructions of the demagnetizing cassette.

Troubleshooting

If you run into any problem using this stereo system, use the following check list.

First, check that the power cord is connected firmly and the speakers are connected correctly and firmly.

Should any problem persist, consult your nearest Sony dealer.

General

The display starts flashing as soon as you plug in the power cord even though you haven't turned on the power (demonstration mode).

- Press DISPLAY / DEMO when the power is turned off.

  The demonstration mode appears automatically the first time you plug in the power cord. If there is a power outage lasting longer than half a day, redo the following:

  — Clock setting (see "Step 3: Setting the time")
  — Preset stations (see "Step 4: Presetting radio stations")
  — Timer settings (see "Waking up to music" and "Timer-recording radio programs").

There is no sound.

- Rotate VOLUME clockwise.
- The headphones are connected.
- Insert only the stripped portion of the speaker cord into the SPEAKER jack. Inserting the vinyl portion of the speaker cord will obstruct the speaker connections.

continued

There is severe hum or noise.

- A TV or VCR is placed too close to the stereo system. Move the stereo system away from the TV or VCR.

The sound from the connected source is distorted.

- If "VIDEO" appears in the display when you press FUNCTION, switch the display to "MD" (See "Connecting a VCR" on page 15).

"0:00" (or "12:00") flashes in the display.

- A power interruption occurred. Set the clock and timer settings again.

The timer does not function.

- Set the clock correctly.

DAILY 1, DAILY 2, and REC do not appear when you press the TIMER SELECT button.

- Set the timer correctly.
- Set the clock.

The remote does not function.

- There is an obstacle between the remote and the system.
- The remote is not pointing in the direction of the system's sensor.
- The batteries have run down. Replace the batteries.

There is acoustic feedback.

- Decrease the volume level.
- Move the microphone away form the speakers or change the direction of the microphone.

The color irregularity on a TV screen persists.

- Turn off the TV set once, then turn it on after 15 to 30 minutes. If the color irregularity still persists, place the speakers farther away from the TV set.

Speakers

Sound comes from one channel or unbalanced left and right volume.

- Check the speaker connection and speaker placement.

The sound comes from the center speaker only (MHC-F250AV only).

- The source being played back is monaural. Press PRO LOGIC to turn off the Pro Logic mode.

There is no sound from the center speaker (MHC-F250AV only).

- Set the CENTER LEVEL to the appropriate level.

There is no sound from the rear speakers.

- Connect the left and right surround speakers correctly.
- Press SUR to turn on the surround effect.
- (MHC-F250AV only) Set the REAR LEVEL to the appropriate level.
- (MHC-F250AV only) The software being played back has limited sound effects. Check the volume with the test tone.

Sound lacks bass.

- Check that the speaker's + and – jacks are connected correctly.

CD Player

The CD will not play.

- Close the front cover.
- Check if the CD is correctly inserted in the slot.
- The CD is dirty.
- The CD is inserted label side down.
- Moisture condensation has built up. Remove the CD and leave the system turned on for about an hour until the moisture evaporates.

Play does not start from the first track.

- The player is in program or shuffle mode. Press CONTINUE.

"–OVER–" is displayed.

- You have reached the end of the CD. Press and hold ⏮ / ◀◀ to return.

Tape Deck

The tape does not record.

- No tape in the cassette holder.
- The tab has been removed from the cassette (see “To save a tape permanently” on page 52).
- The tape has reeled to the end.

The tape does not record nor play or there is a decrease in sound level.

- The heads are dirty. Clean them (see “Cleaning the tape heads” on page 53).
- The record / playback heads are magnetized. Demagnetize them (see “Demagnetizing the tape heads” on page 53).

The tape does not erase completely.

- The record / playback heads are magnetized. Demagnetize them (see “Demagnetizing the tape heads” on page 53).

There is excessive wow or flutter, or the sound drops out.

- The capstans or pinch rollers are dirty. Clean them (see “Cleaning the tape heads” on page 53).

Noise increases or the high frequencies are erased.

- The record / playback heads are magnetized. Demagnetize them (see “Demagnetizing the tape heads” on page 53).

After pressing ► (◄) or ⏏, there is a mechanical noise, “EJECT” appears in the display, and the unit enters standby mode automatically.

- The cassette tape was not inserted correctly. Eject the tape and turn the power back on.

Tuner

Severe hum or noise (“TUNED” or “STEREO” flashes in the display).

- Adjust the antenna.
- The signal strength is too weak. Connect the external antenna.

A stereo FM program cannot be received in stereo.

- Press STEREO / MONO so that “STEREO” appears.

If other troubles not described above occur, reset the system as follows:

1 Unplug the power cord.
2 Plug the power cord back in.
3 Press ■, ENTER, and FUNCTION at the same time.
4 Press I / ⏻ to turn on the power.

The system is reset to the factory settings. All the settings you made, such as preset stations, clock, timer, and Disc Memo are cleared. Be sure to restore all necessary settings.

Specifications

AUDIO POWER SPECIFICATIONS:
U.S.A. models:

MHC-F250AV
POWER5 OUTPUT AND TOTAL HARMONIC DISTORTION:

with 8 ohm loads both channels driven, from 70-20,000 Hz; rates 100 watts per channel minimum RMS power, with no more than 0.9% total harmonic distortion from 250 milliwatts to rated output.

MHC-F150
POWER OUTPUT AND TOTAL HARMONIC DISTORTION:

with 8 ohm loads both channels driven, from 70-20,000 Hz; rates 100 watts per channel minimum RMS power, with no more than 0.9% total harmonic distortion from 250 milliwatts to rated output.

Amplifier section

North American models:
MHC-F250AV:
Front Speaker:
Continuous RMS power output
100 + 100 watts
(8 ohms at 1 kHz, 10% THD)
Total harmonic distortion
less than 0.09%
(8 ohms at 1 kHz, 40 W)

Center Speaker:
Continuous RMS power output
25 watts
(8 ohms at 1 kHz, 10% THD)

Rear Speaker:
Continuous RMS power output
12.5 + 12.5 watts
(16 ohms at 1 kHz, 10% THD)

MHC-F150:
Continuous RMS power output
100 + 100 watts
(8 ohms at 1 kHz, 10% THD)

European models:
The following measurd at AC 230 V, 50 Hz
DIN power output (Rated)
50 + 50 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (Reference)
60 + 60 watts
(8 ohms at 1 kHz, 10% THD)

Other models:
The following measured at AC 120 / 240 V, 50 / 60 Hz
Continuous RMS power output (Rated)
110 + 110 watts
(8 ohms at 1 kHz, 1% THD)
Continuous RMS power output (Reference)
130 + 130 watts
(8 ohms at 1 kHz, 10% THD)
Peak music power output (Reference)
1500 watts
The following measured at AC 110 / 220 V, 60 Hz
Continuous RMS power output (Rated)
90 + 90 watts
(8 ohms at 1 kHz, 1% THD)
Continuous RMS power output (Reference)
110 + 110 watts
(8 ohms at 1 kHz, 10% THD)

Inputs

VIDEO / MD IN: (phono jacks)	voltage 250 mV / 450 mV, impedance 47 kilohms
MIX MIC (except for Australian and European models): (phone jack)	sensitivity 1 mV, impedance 10 kilohms

Outputs

VIDEO / MD OUT: (phono jacks)	voltage 250 mV impedance 1 kilohms
PHONES: (stereo phone jack)	accepts headphones of 8 ohms or more
SPEAKER:	
MHC-F250AV:	accepts impedance of 8 to 16 ohms
MHC-F150:	accepts impedance of 8 to 16 ohms
MHC-FR10 (European models):	accepts impedance of 8 to 16 ohms
MHC-FR10 (Other models):	accepts impedance of 8 to 16 ohms
REAR SPEAKER:	
MHC-F250AV:	accepts impedance of 16 ohms
MHC-F150:	accepts impedance of 16 ohms
CENTER SPEAKER	
MHC-F250AV:	accepts impedance of 8 ohms
SUPER WOOFER:	Voltage 1 V, impedance 1 kilohms

CD player section

System	Compact disc and digital audio system
Laser	Semiconductor laser (λ=780nm) Emission duration: continuous
Laser output	Max. 44.6 μW* *This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block with 7 mm aperture.
Frequency response	2 Hz – 20 kHz (±0.5 dB)
Wavelength	780 – 790 nm
Signal-to-noise ratio	More than 90 dB
Dynamic range	More than 90 dB
CD OPTICAL DIGITAL OUT (Square optical connector jack, rear panel)	
Wavelength	600 nm
Output Level	–18 dBm

Tape player section

Recording system	4-track 2-channel stereo
Frequency response (DOLBY NR OFF)	40 – 13,000 Hz (±3 dB), using Sony TYPE I cassette 40 – 14,000 Hz (±3 dB), using Sony TYPE II cassette
Wow and flutter	±0.15% W.Peak (IEC) 0.1% W.RMS (NAB) ±0.2% W.Peak (DIN)

Tuner section

FM stereo, FM / AM superheterodyne tuner

FM tuner section

Tuning range	
2 band models:	87.5 – 108.0 MHz
3 band (FM–MW–SW) models:	87.5 – 108.0 MHz
3 band (FM–MW–LW) models:	87.5 – 108.0 MHz
Antenna	FM lead antenna
Antenna terminals	75 ohm unbalanced
Intermediate frequency	10.7 MHz

AM tuner section

Tuning range	
2 Band type:	
North American models:	530 – 1,710 kHz (with the interval set at 10 kHz) 531 – 1,710 kHz (with the interval set at 9 kHz)
Other models:	531 – 1,602 kHz (with the interval set at 9 kHz) 530 – 1,710 kHz (with the interval set at 10 kHz)
3 Band type:	
European models:	
MW:	531 – 1,602 kHz (with the interval set at 9 kHz)
LW:	153 – 279 kHz (with the interval set at 3 kHz)
Other models:	
MW:	531 – 1,602 kHz (with the interval set at 9 kHz) 530 – 1,710 kHz (with the interval set at 10 kHz)
SW:	5.95 – 17.90 MHz (with the interval set at 5 kHz)
Antenna	AM loop antenna
Antenna terminals	External antenna terminal
Intermediate frequency	450 kHz

Speaker

Front Speaker
SS-F250V for MHC-F250AV:

Speaker system	3-way, bass-reflex type magnetically shielded type
Speaker units	
Woofer:	17 cm, cone type
Tweeter:	5 cm, cone type
Super Tweeter:	2 cm, dome type
Nominal impedance	8 ohms
Dimensions (w / h / d)	Approx. 215 x 375 x 290 mm
Mass	Approx. 4.5 kg net per speaker

SS-F150 for MHC-F150/SS-FR10 for MHC-FR10

Speaker system	3-way, bass-reflex type
Speaker units	
Woofer:	17 cm, cone type
Tweeter:	5 cm, cone type
Super Tweeter:	2 cm, dome type
Nominal impedance	8 ohms
Dimensions (w / h / d)	Approx. 215 x 375 x 290 mm
Mass	Approx. 4.5 kg net per speaker

Rear Speaker
SS-SR50 for MHC-F250AV:

Speaker system	1-way, 1-unit, bass-reflex type
Speaker units	
Full-range:	8 cm, cone type
Nominal impedance	16 ohms
Dimensions (w / h / d)	Approx. 215 x 100 x 210 mm
Mass	Approx. 1.1 kg net per speaker

SS-SRF1 for MHC-F150/MHC-FR10:

Speaker system	1-way, 1-unit, bass-reflex type
Speaker units	
Full-range:	10 cm, cone type
Nominal impedance	16 ohms
Dimensions (w / h / d)	Approx. 117 x 170 x 150 mm
Mass	Approx. 0.9 kg

Center Speaker (MHC-F250AV only)
SS-CN50 for MHC-F250AV:

Speaker system	1-way, 1-unit, bass-reflex type magnetically shielded
Speaker units	
Full-range:	8 cm, cone type
Nominal impedance	8 ohms
Dimensions (w / h / d)	Approx. 275 x 105 x 200 mm
Mass	Approx. 1.5 kg net

For customers in Canada

(For MHC-F250AV)

Use only the supplied SS-SR50 rear surround speaker for connection to the REAR SPEAKER connector, the supplied SS-CN50 center surround speaker for connection to the CENTER SPEAKER connector on the MHC-F250AV.

(For MHC-F150)

Use only the supplied SS-SRF1 rear surround speaker for connection to the REAR SPEAKER connector on the MHC-F150.

General

Power requirements
North American models: 120 V AC, 60 Hz
European models: 230 V AC, 50/60 Hz
Australian models: 220 - 240 V AC, 50/60 Hz
Other models: 110 - 120 V or 220 - 240 V AC, 50/60 Hz

Power consumption
MHC-F250AV:
U.S.A. models: 250 watts
Canadian models: 250 VA
MHC-F150: 200 watts
MHC-FR10:
European models: 150 watts
Other models: 250 watts

Dimensions (w/h/d) Approx. 280 x 375 x 455 mm

Mass
MHC-F250AV/F150: Approx. 12 kg (26 lbs. 7 oz.)
MHC-FR10:
European models: Approx. 10 kg (22 lbs. 1 oz.)
Other models: Approx. 12 kg (26 lbs. 7 oz.)

Supplied accessories:
AM loop antenna (1)
Remote
for MHC-F250AV:
RM-SF250AV (1)
for MHC-FR10/F150:
RM-SF150 (1)
Batteries (2)
FM lead antenna (1)
Speaker cords (4)*
* (5) for MHC-F250AV
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Design and specifications are subject to change without notice.

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Sony Corporation Printed in China